

AGCTOGAGAC TCTGCGTGA AGAGATATTC GGCCTGTGG CCGTAGTTGC GAAATTCAG 180
 5 GACTACGATG AAGCTATTTC TTAGCTAAT GACACTAACT ATGGGCTGGC ATCTGCGTT 240
 TTCACTGAAA ACATACGGGT TGGCACCGC TTGTCCGTG ATGTCCAATC TGGCACTGTG 300
 10 TGGGTTAATT CCTCTAATGA TGAGGAGGIG GGAGTCCCTT TTGGCGGGTT CAAGATGAGC 360
 GGATCGGAA GGGAGCTGGG GAAGGCAGGC CTGCAACTT ACCTCCAGAC TAAAGCAGTA 420
 15 CACCTGAAT TTGCTTAGAT AGAGCAACTC ATATATTAGA ATCACTTCAT ACATCAACTA 480
 TATATCATT TGTATATGAC TATGCCAGAG GTGTAGTGA ACCACTATTT ATCACTGAT 540
 20 AGGGGTGGG CGGTATCCG GCCAGTACCT GCGTTGCAG ACCGGGGGA CACATTCAGC 600
 AGTGCTATA TACAGTTGTC GAGGACAGTA TGGCAGCAG TACCAATTATA GCAAGTAAGC 660
 25 CGTGTGCTGT TTGCATAAAG CGTAAGGTCA AGTGGACCG GCTGGTCCG TCACGAACT 720
 GTGTCAA 727

(2) INFORMATION FOR SEQ ID NO:739:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1481RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:739:

GATCGATAGG CCACACTTTC ATGTTTGTG TTCACACTGA AAATCAAAT CAAGGGGACT 60
 55 TTACCCCTT TGTCTACTG GAGATTTCTG TTCTCCATGA GTCCCCCTTA GGACATCTGC 120

II 396

GTTATCGTTT AACAGATGTG CCGCCCCAGC CAAACTCCCC ACCTGACAAT GTCTTCAACC 180
 5 CCGATCAGCC CGTATAGGAC TTATAATGCT AGAAGGTGGA AAATGAATTC CAGCTCOGCT 240
 TAATTGAATA AGTAAAGAAA CTATAAAGGT AGTGGTATTT CACTGGGGCC GAAGCTCCCA 300
 10 CTTATTCTAC ACCCTCTATG TCTCTTCACA ATGTCAAAC AGAGTCAAGC TCAACAGGGT 360
 CTTCTTTCCC CGCTGATTCT GCCAAGCCCC TTCCCTTGGC TGTGGTTTCG CTAGATAGTA 420
 15 GATAGGGACA GTGGGAATCT CGTTAATCCA TTCATGCGCG TCACTAATTA GATGACCAGG 480
 CATTTGGCTA CCTTAAGAGA GTCATAGTTA CTCGGCCCGT TTACCCGGCG TTGGTTGAAT 540
 20 TTCTTCACTT TGACATTCAG AGCACTGGGC AGAAATCACA TTGGGTCAAC ATCACTTTCT 600
 GACCATGCA ATGCTATGTT TTAATTAGAC AGTCAGATTC CCTTGTCCG TACCAGTTCT 660
 25 AAGTTGATCG TTAATTGTAG CAA 683

(2) INFORMATION FOR SEQ ID NO:740:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1481UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:740:

50 GATCGGGTGG TGTTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG 60
 TTCTGGGGGG AGTATGGTGG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCAACCACC 120
 55 AGGAGTGGAG CCTGGGGCTT AATTGTACTC AACACGGGGA AACTCACCAG GTCCAGACAC 180

AATAAGGATT GACAGATTGA GAGCTCTTTC TTGATTTTGT GGGTGGTGGT GCATGGCCGT 240
 5 TCTTAGTGG TGGAGTGATT TGCTGCTTA ATTGCGATAA CGAAGAGAC CTTAACTAC 300
 TAAATAGTGC TGCTAGCATT TGCTGGTTGC GCACTTCTTA GAGGGACTAT CGGTTTCAAG 360
 10 CCGATGGAAG TTTGAGGCAA TAACAGGTCT GTGATGCCCT TAGACGTTCT GGGCCGCAAG 420
 CCGCTACAC TGACGGAGCC AGCGAGTATA ACGTTGCCG AGAGGTCTGG GTAATCTTGT 480
 15 GAAACTCGT CGTGCTGGG ATAGAGCATT GCAATTATTG CTCTTCAAG AGGAATTCT 540
 AGTAAGGCA AGTCATCAGC TTGGTGTGAT TAGTCCCTG CCGTTGTAC ACACGCGCG 600
 20 TGCTAGTAC CGATTGAATG GCTTAGTGAG GCTCAGGAT CTGCTTAGAG GAGGGG 657

(2) INFORMATION FOR SEQ ID NO:741:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 694 base pairs
 (B) TYPE: nucleic acid
 30 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1482RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:741:

45 GATCCATCG TTAATATGGA TTGCTACAG TGAGAGCAA GAGGCGGGG GATTTAAAGC 60
 ATGGTGGGC GAGCCTATT TTAAATGGG GTTGTTGCA ACGTTTGG CCGGCTTCT 120
 50 TGCTGTCAT AGTGAAAAGT TCATTGCCA AAGAACGTAC GAATCTTTC TGATACTGCA 180
 CAAGCTCTC AACATTGTCT TTATTGTATG CATGTATATG CACATCAAAA CGCTGGGATG 240
 55 GCACGGCTGG GTCTGGTGA TGGTTGCCAT CTA CTGCTC GAGGTGTGG CCGGATAGC 300

TGGCATTGTA CTTGCTGGAG GCATCAAGAA GGGCACATTA ACAGATGTTG GGGATCGCGT 360
 5 GCTCAAGATG ACAGTGGAGA AGCCAAAGCA TTTCAAATAT TACCCGGGGG CTTATGTTTT 420
 CGTTTATTTT ATTAGTGGGA AGGATGCTTG GTTCTATCCA TTCCAGTGGC ACCCGTTTAC 480
 10 CGTCCTTAAT ACACCCAAGA TCGATGGGGA CAACCTGGTG ATTTATTTC AAGTGCACAA 540
 GGGCGTGACG CAGCAGCTGC TAAACAGGAT CTTTCTATCC GGGAAAGAGT CCATCGAATA 600
 15 CAAGGTGCTT CTAGAAGGGC CCTATGGAAA CACCATTCGG GGGCTTGCTG CTCTGACCG 660
 GCGCTACGTG GGCGCCAGCG CAGGTCTTGG CGTA 694

(2) INFORMATION FOR SEQ ID NO:742:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1482UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:742:

GATGGGCGGG TTGGGCGGG TGGGCGCAA GCTGAACGG TCGGCGCGA AGGATGCGAT 60
 45 GTGGCGGCTG CGGAATTACT CGATGAAGTG CAATGAGGCC AACGATGTGT ATCTGCTGCT 120
 GAAAGGGTCC AGCCACGTAG CCTGGGACGT GAGCGACACA CTTCTGATT GGTGGGCGAG 180
 50 CACCGAGGAT GAGCGGGTGA TGGAGCTGGT GCTGGGAGAG TGCTGGAAG TGAACCGGCG 240
 GCTGGAGTTC CGCGTGTTTG TACGAGGTGG GGAGGTCTG GGCGGTTGCC AGCGGGACCT 300
 55 GAACTACTAT GACTACCTGA AGCCGCTGGA GGAGAAGCTG AGGAAGGCCA TTGAAGACTT 360

CGTGCACGAC GTGATGCTGC AGCGGCTCCC GGACGACACC TTTGTTGCGG ACGTGTACAT 420
 5 CCGCGGGCCG TTCACAAAGG TCTGGCTGAT CGACGTGAAC CCGTTTGGC GGGAGACCGA 480
 CCGCTGCTG TTTTCATGGA ACGAGCTGTG CACCTGAAGC CCAAGGCCGA AGGGCACCGG 540
 10 AGCTGGGCTT GGTTCGGGAA AACTACATCG GTGCTTTCG GGAACAAC ATCGGTGCT 600
 TCGACGGGAA AGGAGCACTC GGAACACCAG GTACCTCTGG ACGTGGTGA GGCAGGGCTC 660
 15 AATCGCAAA GCATGCAGAA GCTGGTTGAG A 691

(2) INFORMATION FOR SEQ ID NO:743:

(i) SEQUENCE CHARACTERISTICS:
 20 (A) LENGTH: 581 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 30 (A) ORGANISM: PAG1483RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:743:

GATCCAAAAA ACCTCTWAAG GTACAGTCTC TAATTGCTTC CATSTCTTTT TGAACATACA 60
 40 TGGACCATGC ATCTCTGTTT TTGTTACGGA CAGAATCTG YAATGCAGCA ATGGCACTTG 120
 GCTGTTGAC GTGCTTATAA CCACCATCCC TCCAATGGTA TTGCGCGGCT TCAGGCAAGT 180
 45 TGACAGATCT CTTAATCKTA AACCTGATG GATAMCCGG CTOGTGCAAT GAAAAGGCGT 240
 CTTGSGCAAT GTATTCAAAG GTAACACCT TAATTCTAGA AGCGTTCCG GCAAAACACA 300
 50 AATCAATCAC TGAGTTATCA ATACCTAAAG CTTCAAATAT CTGGCTCCC TTGTAAGATG 360
 CCAGAGTAGA GATACCATC TTGACATGA CTTTGTATAT ACCGCGTCA ATTGCTTCTT 420
 55

TGTAATTATG CAACAGTTGC TCATCTGTAA TATCAGAGTA GTCATCGTTA ACATTCCGAA 480

5 CTAAACCTTC GTTATTCATT CTGACCAGGG TTTCATCGC TAAGTAAGGG AAAATACCGT 540

CACACCCATA GCCAAGAAGA ACACAGAACT GGTGAAC TTC G 581

10 (2) INFORMATION FOR SEQ ID NO:744:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 668 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1483UP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:744:

30

GATCATCAGC CCGCTGCTC CGCCGAGTA ACGGCTCAC GTCTAGTCT GCGTCCCTG 60

35 CTAGTCGTG GTCATCGAG AGGTCTCTT CTCAGGCTC GGAGTTGGC ACGAGGCAC 120

TTGAAAGACT CTGTCTTGA TTCAATCCC CGCCCCGTA TTCTGGCCC TGTGGGGTG 180

40 GCTTGGTGAG GCGTCCCGC TGCAGATCT CAACGTCAT CTCAGCTC TGAAGTTGG 240

CAAGAATTC GGTTCCTGA GAGACATAGA ATTGTCAAT TCGCTCAGC TCCTTATCCA 300

45 GCGCCGAAT GAATCTTTG ATGTAGCTCT GTGCAAGCG CACCCGCTG GGTCTCTGT 360

CAAACGTCT ATGCTGGTAC AGCTTGCTT TCTGCAGGT GTACAGAGC TTCTCAACT 420

50 GCGAGTACG GATATACTT GACGAACACT CAGGGACCG GTTGAATTG AGCGAATGT 480

AGAACTTCAT CTTGGCTTCT ATGCGCTAAC GCGCTGGTC CGTGGCGATA CAGGTCTGT 540

55 TCATTGAAAG TACGCAGCG AGGCATAGT TTAATTCCAG GCTCCAGGA GATTTTCTG 600

CAAGAGGACG TTTTAATTCT CATTATATCA CGTGCCCTGG CTATATTTAT AAAGTTGCCT 660

CTAACGGG 668

(2) INFORMATION FOR SEQ ID NO:745:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1484RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:745:

GATCCTCTTC TATAACTCAA TTAACAATGT TTCTCCTGT GGAGTGTTC CTGCATCTTC 60

CGTAACCTT TCATTCTGAG GGTAGOCAT TTTATCTTC TGCGCTGAA CACTCGGAA 120

TTCAAATTGA GTTATTGGCA CCTGTGCTC CTCTCCTTG TCGGTATAC TTTCTCAGG 180

AGGATAAGA GGCTCCGATG GTGATGATAG CAGTGTTTC TTAATATCCG GTTCTGAGAC 240

CTGCGGCTCA AAGCCAGTTA CTGATTGGA CTGGCGATTC TCCATCGGG AACTTTGTGT 300

GGTATGTAGG ATTGCTGGAG TGAGTTCTGC AGCGTTGAA GAGCTCTGG CATAGCTACG 360

ATATGTTGGC TCAGGTTCCG TCTTCTCGTA CGGAACAGTG TTGGCTGGAG AGGACTCTGG 420

TTGTGGTGC ATTTGATAAG TGTATGATC AGAAGGTAAG TGTGGCATGG AATATTGTTG 480

CGAAAGATTA ATATTCTCA ATTGTCTCTC TAACATGGTG TCATAAATGC TCATTATATC 540

CGAAATTTTG GCATTCAATG CTACCAAGGT ATTATATTG TGAAAGTAT CGTTAAGGGA 600

ATGGTTTAAC CGAGGCCGAG TTCCAAGGAC CTCTGGTAT AGCATCTGCA GCTGTGTATC 660

CTCTAACACG GCATTCATTG GCTGACCCCTT CCTCTTCCTC CACTAGG

707

(2) INFORMATION FOR SEQ ID NO:746:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1484UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:746:

GATCTGGAG AACGTGCTAC AACACTOGTG CCGGGTCAAG CCGGACCCGA AGCTGATCGA	60
CCAGCAGCCG GAGATGAACC CCCAGCACAC GCGGACTGCG ATGTGTGAAT TTGGGTTCGA	120
GCTGGGCGAG AAGACGCGGG TGACGAACCG GATCTTTTTC CACGGGTGC GGTGTACGA	180
CCGTACTGC TCGAAGCGCG TGGTGCTAGG GGACCAGGCG AAGCTGGTGA TTGGACCTG	240
CCTGTGGCTG GCGGCGAAA CGTGGGGGGG GTGCAACCAC ATCATCAACA ACGTGACGT	300
GCCTACGGGT GGGCGCTTCT ACGGGCCCAA CCGCGGGCG CGCATCCCGC GTCTGTCCGA	360
GCTGGTGAC TACTGCGGGG GGTGGAACGT GTTTGACGAG TGATGTTC ACGAGATGA	420
GCGCCACATC CTGGACACGC TGAGCTGGA CGTGACGAG CGATGGTGA ACGACTACGT	480
GCTCAACGTG GACGAGAACT GTTTGATACA GTACGAGCTA TACAAAAGGC AGCTGGAGCA	540
CAATCGGCAG TACGCCAACA AGCGCAACTC GCAGGACAGC AACCGACCG AGGAGGACGT	600
GTCCGAGGAG GACGAGGACC TGGATAACAA GATCCAGTTA ATCAACATCA AGAAGTTTCT	660
GATAGACCTG GCGTCTGGC AGTAAGACCT CTGAAGTAT GAGGTATTCC GAGCTA	716

(2) INFORMATION FOR SEQ ID NO:747:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1485RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:747:

5	GATCCCCGCG TTATTAGCAC GGTGCCCTTAA CCAACTGGGC CAAGGAACCA ATTACACTTA	60
25	AGATGCTATT TGCAGATAIT TGTAGTCCAC TCAAGTCAAC ACGGCATAT TTTACTTTCT	120
30	AATTCTTAAA TTCTTAACTC TAAGCCAATC TAAGTAGITT ATCTATCAT CACTTGATCC	180
	TTGGGTTTGT TTGGTCTATA ACCTTAAATT GGGTAGTGCT TATGGAAATA TATATAATGA	240
35	GATATTACAT GGTGCCATA TAACTTCCGT ATGAGAGITT GCGCGAGTGG TTTAAGGCGT	300
	CAGATTTAGG TTATTCTCCT AAAATCTCTG ATATCTAAGG ATTGGGGGT TCGAATCCCG	360
40	TAGCTCTCAT TATTTTITGT ATATGTCTT TCTCAGGCAT GTGACATTTT GCATCATAAT	420
	CATACCGAAG ATATGGCTCC CACCGTGACC TGATACATTC TCGCATCTGA AGGCATGCAA	480
45	TTTAATGCAA CTGTGGCTGC AGATGCTCTA GSTAGGAAGT AGCACAACAT CTAACAATA	540
	GCCTGCCATA TACAGCGCAA TGACAGGCTC TGAGTGTGTG TGGCACCGAT CATAAGCCAA	600
50	TTCTGATTGT CTGAAGACAG GCTATGAGTC TCCACAGTC CTCCTTGCTG TCCCATACGC	660
	ATATAAATAC CCTTAAAGCT CAATTAGCCG GTATTTTATT TGAGCTGCAG AAGGTATCTT	720
55	AACTCAGGTA TAATATACTG TAATGGGG	748

(2) INFORMATION FOR SEQ ID NO:748:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 755 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1485UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:748:

GATCGGAGGT AGTGTTTTTCG GTGGGCAACG AGCTGTAGCA CGCGGGTCC AAGAGCGGCA	60
TTGTGCTGTG TATGTTGGTG ATGACCTCGA TGAGCTGCTT GCGGAGGTGC TCCAGTAAT	120
CTTGGGTGCG GAGCCACAT TCCTTCGGT CGCGAAAAT GGTGCGAAG TACTCGAGCT	180
GCTGCGAGAC CTTCTGTAT TCTAGCTCGC GGTCAAGCA GACGATGGCG TTGCGCTGAA	240
GGATCGTGAG CTGCTGAGC AGTCAACGA GGTGCTGAA TTGTGGCACC GCGCTCAGCG	300
CGCGTGGAT CGCCTAACA AAGGCGCGC GGCCTTCAG GCGTGTCCA CTAAAGAGAT	360
CACTGCGCTC GAAAATGCTG ATTGCCTCGC GCATGTACCG CACAAGCTGG CGCGACCGA	420
ACAGATAGCT CATGTGCCG GAGTTCGACG TCACGCTAAC TGCCGAGTGC TTGGTTGAGT	480
GGCTGAAGGG CCTACTGCC CGGTAGGCG ACCCGAGAA TGCGTCATCA CCTGCTCTTC	540
ATCTGGCTTG AGATACAAAT CCGAAGCGG CAGTTGCTT GTCATGCGAG AGTTGTTTGA	600
CAAGAGCAGC TCGTCTAGTC GCTGCTGGAG CTGGCCACT TTGCTTTTGA GTAGTTCCAC	660
TTCAGTCCC TTTTGGATA GCATGAGCTG CAAGTGGCAG TTCTGTTTTT GCAACGCCAG	720
CACCTCATCG GCGCGGTAC CGCTGCTCTT GCAGA	755

(2) INFORMATION FOR SEQ ID NO:749:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1486RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:749:

GATCCTTCCTT GTACATTCTT GATTTTAACA ATGCTTCAT AGGTATATT TTACCGGTAT	60
CTTCTCTCTG CACCAGACGG ACCTCACCGA ATGCAACCTT TCCTATGACT TTAACAGTGT	120
GGAAATCTTC CAGGGATAGC CGTGCTCTAC GCAAGCGCAG AAAGTGGAC TCCTTTTAC	180
CCAGTGAAGA AAGCTGTCTG TTCTTTCTCT CTCAGACCA GGCATGAGAT AATAGCTGGG	240
ATTCAAGTTC CACGGCTCTT TGGTTGGCT CAATGGCATG ATTGACAGAT GATTGGTAGA	300
AATCTCGAC TTTCAGCTTC ACTGCAGCG CTCTTCTCTG TGTGGATTG CTCAGTAGCT	360
CTGGACGTCT CTCGAAGTAC ATATAGTTCC CCACTCCGA GGTTTGCCGT TGGCCCCAT	420
TGGCGATTG TGGAACTGAA GAGCACTGCA GGGACTGACG GGATAGCATA GCGCCTGG	480
AGCTCTGGTT TCCCACTAGC GTCTGATGC CAAGGCTTC GTCTAGTAGT CCAGGTAGAG	540
CTGCAGGCTG TAAAGGGGAC TCCGACCCC CAACTGTTT ATAAGCAGAG GAAGCAGCT	600
GCTGCCACT GTAGTCGAG CTGTTGGAGT AGTGCTCTGG TGAAGAATGG CCGGGGCAA	660
GAGTAGTGTG GTTCAAGTTC CGTAAAGAG TTGTTGTCT GCGTGAAAT GCTGGTCGC	720
GTAGGGGG	729

(2) INFORMATION FOR SEQ ID NO:750:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1486UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:750:

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25  GATCAAAACA GCATGTCTAA GTCTGTTGCG CGCTGCCCCG AGTGCCACAC GGAAGTGGT      60
    AAGTGCCCTCA TACAGCAGAA CTACAGCATC GTGATTTGCC CGAAGAGCA GTGCATGTAT      120
    CCGTTCATG AGGCGAGGT GATCCAGCAC CTGGTGAGA CAAGTGACAA GGAAATCCTG      180
    GAGGCTGCAA AGGTGCGGCT GAAAAAGAT AATATCACAG GCAGCGGAGG CCGCTCATG      240
    GAATAAGGAA CCAACCGTGT GCTATATACG TGTACTGTCT ATGTTAAGTA GGTCTCGTGC      300
    GCGCGAGCC CTGCGTGGCT AAAGCTTAG ATTGGAGTTG TACATGATGT CGCCATCGAC      360
    GCTGATGCTG AACTGAACT CAAGGTCCTC GTGGTGGAT ATGTCCACG TTTTATATAT      420
    CATCATCAAC GCGAACACAT TGCAAAATGCT GCGATGAAC AACCGTGA GGTAGTGCTT      480
    GAGGCCCTCG CAGATCTCGT ACGAGATGGT ATACATCAAC ACCTGCCAG TAGTTATAAA      540
    AATGACACCC AAAATGGTGG ACCCTGTCAT CCAGAAGTTG GAGAGCAGA AGATGGAGAC      600
    CACGAGCTGG CACACCGAGT ACATTAGGAA CGCGAGGCGA TTGAGGCGGT ACATTACAAC      660
    GAAAAGGCGG TCGTGTTTGT TTTTCATGTC GGTGGTGCT GAATCCAATT TGGTGAAGG      719
  
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(2) INFORMATION FOR SEQ ID NO:751:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1487RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:751:

GATCGAGCGC GAGCCCATCA ACAACGAGGA GTTTGCTAC CAGCAGGAGC TGATACGAAA 60
 GCGGAGCAG GAGATAGCCA ACATGAGCG TGSTATCGTT GAACTCAAG AGGTCTTCCA 120
 AGACTTGGGG TCCATCGTGC AGCAGCAGAG CGAGCTGGTA GACCACATAG AAAACAACAT 180
 ATACACTCGG GTAACCGCA CGAACCATGC ATCTAACGAA CTGTGCGCG CACTGAGATA 240
 CCAGCGCGGT TCCAACAGGT GGTGCTATA TCTGCTTCTC GCTCTGCTGG CATGCTCTT 300
 CCTGATCGGG GTGACAGTGC TTTAGAACAT CTCAACTAGT CTACTATGTA AGCTTTAAT 360
 ATACTACTGG CTGACCTACT CCTCCGCGAG TTCCACACAG TTCAGGCAGC CGTCATCGCC 420
 GCGGTCACC AAAAGAAGC GCGGTCTAA CGCCAGCCAT TTCACACAT TGATCTGTA 480
 GACCGTGTC GCGCAATCTA CGCGGGCTAC CACTTCCAC CGGCAGGCT GTACCTCTTT 540
 GTATACCGCC AACACACCAT CCGAGCCAAC GCTCGCGATA AGCCGTCG CGCTCCAAC 600
 TACGCTGTAC ACAGCCCGCG TATGCACGC CGCAGGACC GTCTCTTGA TCCACTCTTT 660
 GTGAAGAGC TGGCGTCGT CAGTGAGGCA CGCCAGATG CGC 703

(2) INFORMATION FOR SEQ ID NO:752:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 612 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1487UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:752:

GATCCCAATA CTGGGACTTT ACTAATACCA GCCATGCGGG CAGCTCTGCA GCACTGGTA	60
ATGACAAGGA GGACAAGAAG AACAAATACT GGAACCCAGA CCGCGAGTAT CTGATCGAAG	120
AGGTGAAGAA AAACAAAAAG AGTGTAGTAA ACTACCTTGA ATCGAAGACG AACGACGAAA	180
TGACCCGCAA GGGTCTGATC CGGAACCTGC AACGATTTGC AAAGACAATT CTAATGAAGG	240
AAGGGTTGCA AAACCTGGAG GATATGCTCA CGCTTTCTCA TTTGGAAAAT AGACTGCTGG	300
TAGCCCTAAA ACTTAACGAG ACAAATGAAT TTACCAAATT ATTGAAAGTC TATTGCATCA	360
GCCTAGCAGA AATGGGCTTC AAAAATAGAT TGGATGATGT GCTGAGCTGG CTGTATAACG	420
ATGGAGAATA CAAGGTTGGC ACAATAGCTA ACCAGAAGCG GGAGGAACTG CTGAAGCAGA	480
TATTGGTTGC ATGTGCTGAT ATCCGGCAGG TCCAAAGAGT GACAACCACT TACGCATCTG	540
CTCTTGGTCT TCTTGATGTA TCTTTATAAT TATTGCTAGT CTATAGACAA AGTTGGGAAT	600
CTGAATATAA CT	612

(2) INFORMATION FOR SEQ ID NO:753:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1488RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:753:

GATCAACAAA TGATTTTCTT ATTTTCCGCG CACCGATCAA CGAGATATCA TAGGAATCAA	60
TGTTGCAGGC AAATCCCTCA CCGAGTATGA AGCTCTGGTA TGCTGTGGC GTTGTCTCTT	120
TCATTAAC TG CCGTCCCTG GGCAGTCC TTAAGTTTG ATGATGAGA TATCCACAAT	180
TTGGCTCATT CATCTCTCC AATCCAATGA TGCAGTTTC TTCGAACAAC TCAGGCGGT	240
TGTCTGAAT GTACTGTAG AACGTCATTA CGGCTTTCAA GAAGTCCCC TGGAGGTAGT	300
CTTGAATATT TCTACCATTA ATTACACATT TAGGGGCAAA TAACTTGCCG CTAAAAAAGA	360
GAGTGAACAT AGTCTGGCAG GCTAGGCGGT AATAGTTTGT GGACCAAATC ATTTCTGSAT	420
ACTGTGCTTT TTCCGCTGC GTCTCTGAAT CGATATAGTA GTGTGTCAAT ATGGCAGCCT	480
CAGTAGCTAG GAACCTCTTC GGCTGAAAGC CTGCGCAATG CAACGTCCAT AATGGCGCTC	540
CTGATCCCC AGAAAAGCGA GACCACAGT CTTGGTGGG GTCTAGGTAT ACGTACATGC	600
CGCCCGCTC CTGATCTTT TTAAGCACCA TCACCGTGA CTTCATGTAT TCCTCATGTT	660
ATATCCCTGG GCGCCATGC TCAAGGCTT CCGAGTGAA CAAATAACGG ATACA	715

(2) INFORMATION FOR SEQ ID NO:754:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 684 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1488UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:754:

10 GATCTGTTTT AAGCTGCTGG TGAAGTTTGC GAAGGGTAT GAGCTTTCAC GACGGGAAAC 60
 AAACCAGCTG AAGCGGTCTA TGGGCGATGT CTTCCGGTTG GTGCCCTTTT CTGCCTTCCT 120
 15 GATTATTCCG TTTGCAGAGT TGTTCCTGCC CTTCCGGCTT AAGCTTTCAC CCAACATGCT 180
 GCCATCCACA TATGTTTCTG GGACGGAGAG ACAACAGAAG AGAGTTAAGC TAGAGGAGGT 240
 20 GCGGCGCAAG ACGTCCAAC TTTTGCAGGA GACACTAGAG GAGTCCTCAT TGATCAATTA 300
 TAACTCGGTA GAAGGTTTCA AGAAGCGCAA AAAGTTTCTG AGCTTCTTCC AGAAGGTGAA 360
 25 CTCCTTAAG GATGGCAAGA CCAAGTTTTC TACCATGAA GAGATTTTGT CCATCTCCAA 420
 AATGTTCAAG AACGACACTG TCTAGACAA TCTCTCCAGG CCGCAATTGG TTGCCATGGC 480
 30 GAAGTATATG TCCTTGGCGC CTTTGGGCAC TGACAACATG CTTAGGTACC AAATCCGTTA 540
 TAAATTGAAG AGCATGTTGG AAGACGATAA GAAGATAGAC TACGAAGGTG TTGAGTCACT 600
 35 GAGTACAGAG GAGCTCTATA GTCCCGCGGC TTCCCGCGGG ATCAAAGCCT TCGGTGTTTC 660
 TAGGGAAGAT TTGGTGGAAA AAAT 684

40

(2) INFORMATION FOR SEQ ID NO:755:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1489RP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:755:

5	GATCAGCCCG GAGCAGTGC AATCATTGAA CGAAAGCCCG GGGTTGCTTG CTTTGCGGAT	60
	GGAGAGTCAC AGGGACCCAA TTACCGGTGA GAGTACATTG GTTGGTTTTC CCTACGTTGT	120
10	TCCGGCCGGT CGTTTAAATG AACTTTACCG CTGGGACTCA TACCTAATGG CTTTGGGTCT	180
	TCTAGACTGT AACAAAGTGG ACATAGCAAG TGGATGGTT GAGCATTICA TCTTTGAGAT	240
15	AGAGCATTAC GGTAAATAT TGAACGCCAA TAGGAGCTAC TACCTCTGTC GGTACAAAC	300
	CCCGTCTTA ACCGACATGG CTTTGAAGGT CTTGAAAAG TTGGTGGTG ACCAAAATCC	360
20	TACCGCTGTG GATTCTTGA AAAGAGCATT CATGGCAGCC ATTAAGGAAT ACAAGAGTGT	420
	ATGGATGGCA GAACCGCGT ACGACAAAAC CACGGTCTT TCATGTTATC ATCCAGATGG	480
25	TATCGGTTTC CCACCAGAAA CCGAGCCTGA CCACTTTGAC GCAATTTGCC GGAAATTTGC	540
	GGAAAAGCAC AATGTAACGA TTCCGGAGTT CAGGTGCATG TACGATGCGG GCGAAGTACA	600
30	CGAGCCCGAA CTAGATGAGT TCTTTTTCGA TGATGTGCT GTACGTGAGA GTGGACATGA	660
	CACCTCTTAC CGTCTAGAGA ACGTCTGTGC TTACTTAGCG ACGATTGATT TGAATCGTTA	720
35	CTATACAA	728

(2) INFORMATION FOR SEQ ID NO:756:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 698 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1489UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:756:

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5      GATCGTAACA TTGCCAATA GCTGTGTTAG CTGTCATCG TTTCTGATGG CTAGCTGTAG      60
      ATGTCTTGGG ATGATTCTGG TCTTCTTGTT GTCTCTGGCG GCGTTACCGG CCAACTCTAG      120
10     GATTTGGGCG GCCAAGTATT CTAGCACAGC GGTTAGGTAC ACAGGCGGCG CCGACCCGAT      180
      TCTCTGTGCG TAGTTGCCCT TTTGAGCAA TCTGTGGACT CTACCGACAG GGAAAGTCAA      240
15     ACCGGCCTTA GCCGATCTCG ACTGCGAAGC CTTGGGGGCA GAACAGCTT TACCTCCTTT      300
      ACCAGACATT ATTTGTGTG TGIGTGTGIG TGTGTGTTTA GTGTGAAGTG CGTGTGCTAT      360
20     GAGAAAACAC TACCTGAAA CTGCTAAATA ATCAGACAG GTCCCCCAC CGCAAAGGAT      420
      CCAGCTATA CTTCTCTCTA CATATTTATA CTGTCTCTT TGCTTTCTAA TCTCGATCG      480
25     TACGGTCTG ACCGTTCAAC AGACCTTCAC TAGAGGCTCG ACCTGTGCGG GCTGGTTTTT      540
      TCCATGACA TGTCGTGCT GGTTTTTTTC CGCTGAAAAG GAAAGCGGCT GGCTCCGAGC      600
30     ACCAGAGCG TACTAGCTCT TTCGGTTC TGTCTATGT GCACGCGAAA TTTCATACTG      660
      TAGAGTGTGC CATCAGCTTC ACAGGTACA ACGGTAGG      698

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(2) INFORMATION FOR SEQ ID NO:757:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1490RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:757:

5	GATGACCTTC CGATACTATG CGAGCGCTTC ACGACATCCA AACTGAAGTC GTTCGAGGAC	60
	CTGAGCCGCA TCCAAACGTA CGGGTTCGCG GGAGAGGCAC TTGCCAGCAT TTCTCACATT	120
10	GCGCGACTAC ATGTGGTGAC GAAAACGAAA GAGAATCAGT GTGCATGGAA GGCTGTCTAC	180
	GAGAAATGGG TAATGGTGGG GGAGCCGAAG CCGACGGCAG GCAAGGATGG GACGACAATC	240
15	CTGTACAGG ACCTCTTCTA CAATGTGCGG TCCAGGCTGC GGGCGCTGG ATCTCCAAGC	300
	GAAGAGTTTG CGAAAATAGT GGATGTGGTC GGCAAGTACG CAATCCATTG GGATGGTGTG	360
20	GGATTITCGT GTAAGAAGTT TGGGAAACA CAGTACGGT TAAATGTACG TGGGACTTCT	420
	TCAAATCAG ACAAGATACG GGCTGTATTT GTGCTCCAG TCGTTGCCAA TTTAGTTGAG	480
25	GTAGATATTT CTGCAGACC TGAGCACGGT CTTACATCCA GTTCGGCCA GATTACAAC	540
	CCAGACTTTA ACAACAAGAA GTCTATACCT GCTGTGTTTT TCATTAAATAA CCGCCTTGTT	600
30	TCCTGTGATC CTCTGAGGCG AGCCTATCC CAAGTTTATC CAACTTCTTG CCGAAAGGTA	660
	ACAAACCGTT TATTTACATG AGTTTACACA TAACACCGGA GAATGTTGAT GTTAATGTGC	720
35	ATCCTAC	727

(2) INFORMATION FOR SEQ ID NO:758:

- | | |
|----|-----------------------------------|
| 40 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 728 base pairs |
| | (B) TYPE: nucleic acid |
| 45 | (C) STRANDEDNESS: single |
| | (D) TOPOLOGY: linear |
| | (ii) MOLECULE TYPE: DNA (genomic) |
| 50 | (vi) ORIGINAL SOURCE: |
| | (A) ORGANISM: PAG1490UP |

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:758:

5	GATCTCAAAG ACCCAGTACG ATCGGGTCAT GGGATACATA AACCACGGAA TCAATGAAAA	60
	GCTCGCTTAC GAACAGTTTG GATCTGTACC GGAGAAGGGC TACTATATTTC CTCCACAAT	120
10	ATTTCTGGAC GTTCTCAGA GCTCGAGACT CTGCCGTGAA GAGATATTGG GCGCTGTGGC	180
	CGTAGTTCGG AAATTCAAGG ACTACGATGA AGCTATTGGT TAGGCTAATG AACTAACTA	240
15	TGGGCTGGCA TCTTGCGTIT TCACTGAAAA CATACGGGTT GGGCAGGCT TTGTCCGTGA	300
	TGTCCAATCT GGCAGTGTGT GGGTTAATTC CTCTAATGAT GAGGAGGTGG GAGTGCCTTT	360
20	TGGCGGGTTC AAGATGAGCG GTATCGGAAG GGAGCTGGGG AAGGCAGGCC TGCAAACTTA	420
	CCTCCAGACT AAAGCAGTAC ACGTGAACCT TGCTTAGATA GAGCAACTCA TATATTAGAA	480
25	TCACTTCATA CATCAACTAT ATATCAATTAT GTATATGACT ATGCCAGAGG TGTAGTGGAA	540
	CCACTATTTA TCACGTGATA GCGGTTCGGC GGTATCCCG CCAGTACCTG CGTTGCAGAA	600
30	CGCGGGGAC ACAATTCAGCA GGTGCTATAT ACAGTTGTGG AGGACAGTAT GGCACGAGT	660
	ACCATTATAG CAAGTAAGCC GTGTGCTGTT TGCATAAAGC GTAAGGTCAA GTGCGACCGG	720
35	CTGGTTCC	728

(2) INFORMATION FOR SEQ ID NO:759:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

45

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1491RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:759:

5 GATCATCTCC GAATAGGTCT CGGGCAAGAC GGACACAAAG CCGGGGTCCG AGTCACTGCC 60
 GTCTGTCTGG GCGGGTGGGA AGAAGGAGAA GATGAACGAC CCGACTTCG ACTGTGCTC 120
 10 CGACGCCAGC TCCTGGAGCA CCGTGTCCAC CTTGACCTGC ACCAGGTGC CAGGACACGA 180
 CAGAAAGTGG TCCTTATTCT CAGACAGCTT GTTCACAGCT GTAGGCTGGT AGTCCACCAG 240
 15 CCGTCCGCC GCGGGGTGG CCGGTCTGG TCCACCAAGG ATGTGCTCTG TGTACAGAC 300
 CGTGGCTCC ATGTGCAGGA TCGAGCGAC CGCACTGGC GCGGGAAGG TGGTGGAGTC 360
 20 CAGCGATAGC AACCGGGCA GAGAGTGGGA GATCGATGAC GCGGGCAGT ACGCCAGCTC 420
 AAATGTCTCC CGCATCAGGT AACCGCGAA GATCATGTAC GAGTGTGGT TCCGTATTG 480
 25 CCGCTGCATG AACATCGTGG ACTTCAGGTT CGTGTCTGC ATGACACCA CGCCGCGGG 540
 ACGCAGCTCG CCGGGGTGG CCGCGAGGC GCGCACAAAC CCGTGATCA TCCGGACTC 600
 30 CTCGCGGTA GCGGGGTGG TCTCTAGACT CTCGCTCTGC GCTGTAGCT TCTTGGGCT 660
 GTTGTGGCTC TCCGCGGCC GGAAGTCCAC CCACTCTGC TGGTCTGGG GTAGCA 716

(2) INFORMATION FOR SEQ ID NO:760:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1491UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:760:

GATCTTGAAC AAAAAGTAGT TTGTTATCTT CCAGCTGCCG AGTCTCTTCC AGGGTITTTAC 60
 5 TTCCGATGCT TATTAATACT GGTTCTTTAG ATGGTTCTTG ACTTTGGCTA TAGGCCATTG 120
 GTTCCGGCGA CTGTGAAGG TATGCATTGA GAGTCTCTG GGTAGAAGT GTGGTCTCC 180
 10 CTGTAGTTTT AGCAGCGGC TTGGCCGGGA CTGGTACATC AGGCTGAGGT AAAATCTCG 240
 CTGGGTTGC AGGTTCTATT TCTGTGGGTG GCTCTACACT AGGATCCAAT ACTTGGGGC 300
 15 TACTAGTATC GCATTCTGCA ATATCATCTA TGGCCAGAT GACAGAACTT TCTCTTCCA 360
 TAGGCTGGGA GCATGCAGTA ATCTCGGAAC ATGTGGTAGT ATTATGTAGG TGATCGTCTT 420
 20 CGAATGTCCC AATCAGCTCC TGGCTGGGAA CGAGTTTGGC CCTTTTGACC TTCAACTCG 480
 AGTCTTGATG TGGACTGGC AGTGACGTA AAGATTTAGG CAGCATGAGC TCTGTTCGT 540
 25 TAAAATGCCC GTCCAGTTT TCTGCTAAAC TTTGGAGGAC ATACTCTTCA TTGTGAAGCA 600
 ATACAGTCTT CTTATCCGGA GTCACATTCA CGTCTACAAA CTGCGGGGAG AGCTCAAAAT 660
 30 TTAGAATAAT GACGGGATAC TGGACGTTGT TGAAGCTTCG ATATATGTCA TTGCAACACT 720
 TCAGGACTT 729

(2) INFORMATION FOR SEQ ID NO:761:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 610 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1492RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:761:

GATCTACTTC TCCAACAACG ACCTCCTGTG GTCCAATGGC TACCCCGTGA ACCGCTTTGG 60
 5 CCAGGGCGCG TTCCGCATGC TTATCGAGCG CCTGTACGGC GAGCTCAACG CCGGCTACAG 120
 CCTGGCCCAT ACCACCTACG GCAAGCCCAA CCGCATTGCC TAGACTATG CTGCCCCGGT 180
 10 CCTGGCGCGC TGGTCCGGCC TCCAGACCGC ACAGCCGCCC GCCACGGTAT ACATGGTTGG 240
 CGACAACCCC CACAGCGACA TAATAGGCGC ATACAACCTAC GGCTGGCGCA GCTGCTTGCT 300
 15 GGGTAGCGGC GTCTATCGCG ATGGAGACAC GTTACCATGC CAACCGACCC TCGTGTGGA 360
 CTCGGTCTTG GAGCGCGTAA CCGCCGCTCT CCAGCACTCT TCACATTAC TTCTATACTT 420
 20 TTACGTCTTC TATATACCGG GCTGTGCGT CCGCAGATGC CTAGATCTGA ATCTTGGCCA 480
 CCACAGTTTG CTCCTGAGCC AACTTGTCTG CGTTGGCGCG GGCATATGC TCCTTGACG 540
 25 TGGGAGCCC GGGGACGTA TGGTTTTCCA TCAGCCGGTG GCGGGAACAG AACTGGCCGT 600
 CACAGAACTG 610

30 (2) INFORMATION FOR SEQ ID NO:762:

(i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 553 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

45 (A) ORGANISM: PAG1492UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:762:

50 GATCATGTTG GTGGCCTCCT GCGTGGGCTG CCGCGTGAAG TTGGGGTTTG ATTCCGCGAC 60
 GAGCGCCTGC GTGAGCCGGT TGATCTGCCG CAGTTTCGCC TCGAGCGCGG AGGCCTTGTA 120
 55

CTCGTGGGCC GACAGTGTGT CGTCTAGGGA GAGCTGCTTC GAATTGGAGT TATACTGGAG 180
 5 CATTTGGTGAT CTGCCTGTCC GCAAGAGTGG TGGAGACGT GTTCTTTGGC CTGTTGGCTG 240
 AACAAAGCAC TCCGTGTTTT TCATGACCG CGTGTGCCA GGAGCGCAGA CCGAGAAGC 300
 10 GAGCGTCAGG GCGCGCGGC AGGGACGTAG GCGCTGCTC CCCACTATGT AATGCTGGAT 360
 ATGAAGAACA GAAATACTAG ATAATATATT TGTATTAGAC AGTGTGCGG ACCGCGAGAG 420
 15 GCGCGGTTC ACAAGTCCG ATCGTCTCA TCCGCAACG GCAATGCCGT AGCGCGCTCC 480
 AGCTCTGCT GGTACTGCTG CATCAACTGC TGTGCCCCCT GCACCTCTGG AGCGCGCTAG 540
 20 GCAGGCGAGC CAC 553

(2) INFORMATION FOR SEQ ID NO:763:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1493RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:763:

GATCGAATAA AGTAGGTTTG GCGCTGACCG GCATCACCCG CGGACGTAGC CGGAACAAGT 60
 45 TCCCGTGTA AATGTTTGGG TAGTCGATGA AGGTATTAGT ATTCACTCTC TCCAGCAAAG 120
 ACAATTGATA CTGTTGGGCG GCGCGCAAG AGTTACCACT GTATTCTGCC AACGCTGGGA 180
 50 CGCTTCGGCA ACTAGATTGG AGTGCCCTCT GGAGCTCTGA AACATTATCT AGGATGTTGA 240
 ACCGATCGAA AGCGGTGTGG CCGGGCATAG CGGACATGGC AGTTCTCAGA TTCTGCATAG 300
 55

AACCGGCATA TAGAGCCAGT GCTCCTGAT GCTTGCCCTC CTCTTGTTAA AGGGGAGOGA 360
 5 GCGCGCGGCC TACAAGCTGC GCACGGTAAA ACACCTTGAC AAGCTTCAGA TATGCAGTGA 420
 GCTCATGCTC TGAGTAGACA CCGGGTAGAC CCATAGCCTC CTCTGCATGG GTGATTATGT 480
 10 TGTTCATGAC GTGGTTCAGC TGCTTGTAAT TCGTGAAGCG AGCGGTCTTG CGGCTTCTTT 540
 GCCATTCGAC CCACAGAGGT TGCAACAGCG CAACATCGCG GCCCATGCTC GCGCACAAGT 600
 15 AGTTGAATTG GAGGTATGTG AGCAATATCT GGTGCTCTC TCCCTCATAG TGCACACCTT 660
 CCTCCTGTCT GCGCTCCATT GACTGCTCTT GGCATCAAT TGCGCGTTC CACTTCAGT 719

20 (2) INFORMATION FOR SEQ ID NO:764:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1493UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:764:

GATCATACTT ATCCACCGGT CAAGCCAGGT CTCAATCTTG ACGATGAGCC AGCCGGGCGG 60
 45 CGTGGCCATC TGGAGCCAGC GCTCCCGGAA GCCAATTAGG TACCCTAGAC CAAGCCCGAT 120
 TAGGTGGCCG ACAAAGCTGG AGCCGGGCAT TAGCAGCGTG ACAAGTACCA GGAACACCAG 180
 50 CCGGATATAT AGGGTCGGCA TCTTCAGACT TGGAGCTCG TAGTGGGGGC GGAAGCCCGC 240
 CTCTGCACT GCGAAGTAGC CACACAGCGT AAAGCACCAC CCGCTCGCCC CGCTACGTA 300
 55 AACGTTTGGG TACAACAACA TGCCAACTAA GCAGTACAG AGCCCGGTCA CAATGGCCAG 360

GAGGTGAGC GTGATTCCCG TAAACACCGT CCGTGTGAC GCTTGAACA TCGACAGCGG 420
 5 CACAAACAGC GACATCAGAT TCAACAGCAA ATGGAAGATT GACAGGTGCG CCAGTGGATA 480
 GAGGGAGAGC CCGTCAGCT GCAGCTTCCT AAGCGCCCCC GGATCCAACA GGATCTTCTC 540
 10 GTTGATTGGG AACACCCAAT TCAGCACATA CACAAGCGTA AGGGAACACC GACAAGCCTG 600
 CAGTAAGAGC GCGCGCTTA TGGACCCCGG TCGTAACAT CGACTTCCAA TCCATCTTGC 660
 15 TCAATCAAAG TGGCAGTTTG CTGGGGGTG GCAGTGGACT ATGCTCGCC AGTTGCCCAT 720
 CAAAAC 726

20 (2) INFORMATION FOR SEQ ID NO:765:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1494RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:765:

GATCTTGTT CGTGAAAACC TTGCAGTCT TCATGAGCTC AAGAATTGCC TCTGCATCTA 60
 45 TTCTGTCCGG TTGGATTCTG CTTCTTAT AGTCTGAAT CATGCGGCA AAAGCGGCG
 GGTCCAGTC ATGACGGGAT CGGCCCTTAT AGGACTTCC TCAAGCCGC ATGAGGCTCC 180
 50 GCCAGCCATT TTCTCAATA ATATTGACAA GTCTTGTG TTCCAACAG ACCTGTTCG
 CGAGACTGTG GAAGTGTTC ACGTCTATCT GCTCAAGTAT TTCTACCTT TCTCAGCAG 300
 55 ACCATCGCAA GTTCAATCT GCTCTTGA ATGCTCCAT AAGCTTTCA TTGATGTTAT 360

CCACTGCTTT ATTTGTCAAG GAGAGGATTA GTATTTCAIT AGGAGCTACA ATCCCTTGGT 420
 5 AAACCAGGTT GTAGACTTTA TGCACTAGTG TCACGGTCTT GGCAGACCCA GGTCOCGCTA 480
 CCACATTGAC AGTTGTACAA GGCTCATATG GATGTGTTAC TACTCGTGAT TGGGACGTG 540
 10 TCAGTGCTTT CATTCATGTA TGATACATGC TCGAGCGTGG GCGAAGGAAA TAAATTCTGT 600
 AATTTCCGTT TTAAGATACT CAAAAGAGAT GAGATAACCG CCGCAAGGC GGAGTAGAAT 660
 15 TACAGCAGCT ATTGAATATA TTTAGTTTAT TTATCTGGCT AGCTTAACCA CTAGTGT 717

(2) INFORMATION FOR SEQ ID NO:766:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 606 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1494UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:766:

GATCCCTTAG GCCATCTCT CCAAATTACC CGTGCTTGGC TTCAGTAGCT CAGTCGGAAG 60
 40 ACGTCAGTC TCATAATCTG AAGTCGAGA GTTCGAACCT CCGTGGAGC AAGTTTTTTG 120
 CTCGGGAAA TAAGTATTTG GAGCTGGACT GAAGCGCCAA CCTATGCAGC TTTGCTGGTG 180
 45 CGAAGTGTC ATTCAATGCT GCGACTATG TCTATATATC TTGGGGTCT TGTCTCTG 240
 CTGGCGAAGA GGAATTGGAT TCTTGGGCGT GGTCTGCAAG CTCTGCTAGC TTCTGGCGG 300
 50 GCAGAACACT TTCAAACGCC TCTTCCAGT CATGGTTGTC AAAGTATCTG AGCATGATCT 360
 55 GGATAACGTG GGTGGTGGTC AGCACTTCC TGCCGCATAG CTTGATGTAC TCTCTATTG 420

GTAGGCGACG AGTAGGAATG CCCAGTTCTT TGGCCTTATT GTAACAGAGA GCTTTGTGGC 480
 5 GGTTCCTGTC CACAATGCCG CCCACTATAT ACGTCGTACC GGGTTCAGC GTCTCCAGCG 540
 TCTCATCAGT ATCTGCAGTA AGGTAACTG CGTTCGTAGT TGAAGGGGG GATTGCTCTG 600
 10 TGAAAT 606

(2) INFORMATION FOR SEQ ID NO:767:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1495RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:767:

35 GATCGAATTA GCGGGTTTTA ATGAAACATA AGGAACGAGG TCTAAATGCG CAACATCCTT 60
 GAATGCAGTG CCAAGATGTA TGGCGTTCTT GGTAAAGAAA ATTGTACCAT CGACATAGTT 120
 40 AATGCCACAT CCGATCAGT CGTCTCGACC ATAGGGCTTC GAGTACGACT TGAACAAAGA 180
 GCGGTCATTT ATGTAACCGT CCGACCCGTT GTAAATGTAG ACATCCTTAC CAGTGTACT 240
 45 CTGTTGOGAA GTTGGCCTGG AACCCCTCAA AGGCCCTCTT AATATGTTGG AAGTTTGGCG 300
 GTTCAAGGCA GAAAATTAC CCGGTCCTT CGAAGGTGGA TCGCTAGTGT TTGCTTGGCC 360
 50 AGCATTTGAC GCGACTTTTG ACCAGTCCTT AAATCCAATA TTGATATTGC AGGTTTGGCC 420
 TGA CTGCGCG CTGGTCACCG ATAGTACCTT AATTTCATAG TAAAAGATAG CCACTTTCTT 480
 55 ATGATTAATA CAAGCATTCG CCCAGGTGGA AGCCCACTGC TGCTTCTGGT TATTAAC TGA 540

AGTCCGTAGC CTATTATTTA CAATAGGGCT GTTGTCATAG CCAGAGTAGA GCTGCCAGTT 600

5 GGGTTTAGGC CGCAAGTTTG TGAAACCGTC TGTGAGACC AAACTGAGT TGTTGACTG 660

TGTGGTCCAG AGGTGGGGCA AAAGGATACC TATCGAGGAG TATACGTCTG AGAAA 715

10 (2) INFORMATION FOR SEQ ID NO:768:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 706 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1495UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:768:

30 GATCAGCCAA CAGCTGAGTT CTGATTGGAT GAGAGCTATT AGTAACTTT TTGTGTTTAC 60
GGTGCTGGTC CTGGGATGGT TACAGTACTA CTGTGGAGGC TACGGCGGGT GCCCGGGCA 120
35 GATTGCAGTG ATAAGCCATT ATAAGTGGCC TTGCACGTAC GCGCGGGCAG TACGGGATAA 180
ATTAGGGAAG GGCAGCGAGT GTACGGGGC CAATGCGGCT CCGCATGTGT CCGTGGCGAG 240
40 CCGGTGGATG CAAGGGAAGG TGATGCGCA CCTGACGAAA GTATCCAGT GGACGGAGAA 300
GCATGTACAA CCGCGGATGC GGCAGGCTGG CCGGGACGG ATAGTAACAG CCGCGGTGGC 360
45 ATGGAATGTC GTACAGCAGT ACCAGCGGG GCATGTGGTG CCTCTGACAG GGCGACTGCT 420
GGCGAAGTGT CCGTGTCTCG AGAGGTGGGC CGAACAAGCT GCGCGGGCT GGCAGTGGCT 480
50 CTGCAAGCAT GCTGGGGGC TACCACAGCA GTACAGCAGC AGTATCCTGC GTTTGTGGCG 540
CATATGGGG GCATATGGCA GCGTTTGAC GCGGCTACA ACCGGATCTA TCTGGACTTG 600
55

GGCGCGCCAG TGCAGGAGAA GACGTCCGAG GACSCAGTGC GGCGCGCCGG GGGACTCAKT 660

5 ACATCACATC CACTATCACA ATGACCATGA CTGGCTOGAT GAACTC 706

(2) INFORMATION FOR SEQ ID NO:769:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1496RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:769:

30 GATCGTTTTC TGTCAAACCG CAGTCGGGTT CAAGGAGTAC GTTGAATTTA GCTCTTGCAT 60
 TCAACAAGTC TTCCCCAGTT TCACAATGT TGTGATAAT GAAGGTTTA AAGTCTAGAA 120
 35 GCTCTTCTTG CGTGAAGCCG TTCTGGTGAA GAATCTTCAG TTGTTCAGT ACGGTGATT 180
 TCCCGCTCTC GCCAGAACCC AACAACAAA CCTTGAGCCG GCGATTGCTG GCACTGGTT 240
 40 GCGCCATTGA CCTGGTCCA GCACTGCCG TTGTCTGCTG ACTGTCGCC GATACCACCG 300
 AGCGTTTCTT GCGCGCCGCT GTAGCGCCG ACGTCTATG ACTGGGTGAC GTCTCAGTT 360
 45 TGACTTCTGC ACGTAATCT ACGCTCTTTG CTCTGTTTC TACCTTCTGA GAAGCACCAT 420
 GTCTGTCTG ACGCGCTTT TCGCGTGTG TTGCTGATC CTGTCTTC GACGCGACA 480
 50 ACCCATTTAT GTGGGCTCT ATATCCACA GTACTTGAG CACTCTAGG CCTGGCTTTC 540
 TTTGAAATAT TACCGTCCG GCAAAGCCA CTATAGCC CTGATCAATG GATTCCACTG 600
 55 CTAGAGGCTA ATTAGCTGC CGCTTGTAC TTGGGGGCC ATCATTAT ATTATAGCA 660

AAGTAGGTGC CAACAGAAAA AATCAGCCCG CCTCCTTTAT TGATCAGTG AAGAAATCCA 720

5 CATGAACAAT CAGTGAACA CACATTG 749

(2) INFORMATION FOR SEQ ID NO:770:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 754 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1496UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:770:

30 GATCGAAGTC AATGCCAGAC TATCTGTTT TTTGTCATTG GGGTCCAAGG CAACAGGATA 60
 CCCCCTTGGC TATACTGCGG CTAAGATTGC TCTTGGGTAT ACATTACAG AGTTGCCTAA 120
 35 TCTGTTTACC AAGTCGACGG TGGCCAACCTT TGAACCTCA CTGGACTACA TTGTGGCCAA 180
 GGTTCGAAGA TGGGATCTCT CCAAATTCA ACAGTGGAT AAGACTATTG GGTCTGCCAT 240
 40 GAAGTCCGTA GGTGAAGTGA TGGCGATCGG CCGGAATTTT GAGGAAGCTT TCCAAAAGGC 300
 TTTCGGTCAG GTTGATCCAT CTCTACTAGG TTTCAGGGC TCTGACGAAT TGCAGACCT 360
 45 AGATGAAGCC TTGCAATTTC CTACAGATAG AAGGTGGTTG GCTGTGGGAG AAGCGCTAAT 420
 GAACAGAGST TACTCTGTGG AACGTGTACA CGAGCTTACG AAAATTGATA GATTTTTCCT 480
 50 GCACAAGTGT ATGAATATTG TCGAATGCA GAAGCAATTA GAGACCTAG GATCAATAAA 540
 TGGCTAGAC GAGGTTCTGT TGGGAAGGC TAAAAAGCTC GGCTTCTGTG ACAAGCAGAT 600
 55 TGCACGGGCT ATTTCAGATG ACCTCTCTGA ATTGGATATT AGAGCGCTCA GAAAAAGCTT 660

TGGCATTITG CCATTITGTTA AACGTATCGA CACCATGGCG GCAGAAGTTC CTGCGGTAAC 720

5 CAACTACTTG TATGTTACCT ATAATGCGGT CAAA 754

(2) INFORMATION FOR SEQ ID NO:771:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1497RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:771:

30 GATCATTTGG TCTTCTTGGC CTCTACAAAC TGTGAATATC ATACTAGACC TGAAGTCAGG 60

TAGGGAGCAA CCCAACCCCTT CGGTGGCAGT AGAGGCTGGC AAATCCATTA AAAAGACCGA 120

35 TTGGAATGGG AACTCTAAAA TTGAAACTAA GCAATTTTAT GAAGTCTCGA CAGTTCTCTG 180

TCTTTCAGT ATTGACTATT ATAACCTTAA GAGAAGGTAT CGAAGTTACA AATCTCTGAA 240

40 AAGGGCGACT ATTGAAGATA TATTACATGT TGTGTGCGAC AGAGATCTGG CGGAGCGCAT 300

TGTTACTCAT ATCCAAAGAG AATCTGAGCT GCAACAATAT GAGGAGGATG GGAGGAATGA 360

45 GGTATGAAAT GTTCCCAATT TGGATTAAGG TATCAGGTGG TCACGATATC CACTATATGG 420

TGCTATTAAC GGCATGCAAA GTGTAGAATT AACCTAAAGA ATATGTTATA TATATATATT 480

50 ATAAACTACA AACTAACGGA CGCAATGAAA TCTAAGTGTG GCAAGGTTAG CCTTAATACC 540

GGTACTTGA TAAATCTCC TTTTCAAAT GATACAAGCG TCCCATTTCA AACGCCATGC 600

55 CAGAATCACT GGCTGGATTC ATCATGATTG TGATTGCGGT TGCCTCAGTC GGAAATAAAT 660

TAGCAATACT CATTATACCC TTGGGACCT CCAGCCGCTT CTCTGGGTA GGTTCAAATG 720

5 AGGCAATTIG CATACTCTTT 740

(2) INFORMATION FOR SEQ ID NO:772:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1497UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:772:

30 GATCCTGTCA CAGCGGGCGA CCGCCAGGC CGGTACGGC GAOTGCAGG ACGAGGTGA 60

GGTAGGAGGG TCCGAGGCGG CCTTTGGCGA TGGGGGTG TTGGGGCGA TGGGCGGGG 120

35 CGCGCCGAG GATGGCGAG AGGGCCACA ACTTGGTGCC GGGTGGGC CCATGGTGAC 180

GCCGACCTT CCGATGGAAC CCTCGAGCC GCACGCGTG CCACAGCAGG CCCCCACTCC 240

40 GCACCAGCCA CAGCAGCGG CCGAGAAGG AATGCACATG CTCCAACAGC TGCACGAAGA 300

GCAGAAGAAC TATTCTTACG TGGACCGCCA ACCGTCAATT ATGCAACAGC AGCCACACAT 360

45 GATGCAGCAA CTGCCGCAAC AACGGCCTCG GATGCAGCAA CTGCCGTGC AGGGCCAGTC 420

CGAGACCGG AAGCCCGCAG GCAGTCTCC AATGGTGGTG CCGTCAACC ATAGGCAGCT 480

50 GTTGCAGAAC CTCGACCCA GCATCCAGAA AAGAGTATCA CAGGATCTGA ACAGCAAGCA 540

GTATGAACTA TTGTGAAGT CTTCATGGA ACATGTGAAG CGGTGAATA TTCCGTTTAA 600

55 CCAACCTG AGATAGGCGG GACCGGGTG AACTTATTCA TTTTATACAT GTTGGTACAA 660

AGAATGGGCG GGGCAGATAA TATCAGGAGG CTGCAGCAAT GGGCGGGCTT GGCAGAAAAA 720

5

(2) INFORMATION FOR SEQ ID NO:773:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1498RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:773:

GATCACTACG TGACATTCCG TACGGAATGG CACTOCAATG CCGACAAACC TCTTCTTACC 60

30

CCGTGACTTA CCGGATGTG CCAACTACCA CACATCTGCG CCATAGCCCC AGCCATCTGG 120

CACCAAATGT ACTCGATATC GTTATTACAT GTCTACGCCC TCAAGTGCAT CCACCATCTG 180

35

ATATCATGTC TGCTCTAGGC TATATATTTT GGTGCGGCC ATATCTACCA GAAAGCACCG 240

TTTCCCGTCC GATCAACTGT AGTTAAGCTG GTAAGAGCCT GACCGAGTAG TGTAGTGGGT 300

40

GACCATACGC GAAACTCAGG TGCTGCAATC TTTTITTTTT OCTCTCTCTG CAAGCTGGCC 360

GCCAACACAG GTCACCCTAG TATGGCTCAC ATGCAATTCA GATATCTACT TCTGACTGGT 420

45

CTGGTGGGCG ATGGCCATCA TTGCAAACAG TGTGCTCGCA TGGGACTTTA ACGACCTCGC 480

GATAATAATC AGAGATGTC TACTTATAAA ACATCAGGCA CAAAAGAAA GGTGCACCGA 540

50

AATGGTATAT ATAGGTCTC CAGATCCACC CACCGGTACC TCCTACTTGG CGTATCTGC 600

GTCTCGGTGG CGCTTGCCGC TGAGATGCTG TGGGCCCCGAA ATGTACTCTC AAATGGGCTT 660

55

GTTCAGTGGC CCATACAGCT CATTAAAGCTC AGTGGCCCCG ATGCTTAGTA GTA

713

(2) INFORMATION FOR SEQ ID NO:774:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1498UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:774:

25	GATCTCTTGG TTCTGGCATC GATGAAGAAC GCAGCGAATT GCGATAAGTA TTGTGAATTG	60
	CAGATTTTGG TGAATCATCG AATCTTTGAA CGCACATTGC GTCTCTGGT ATTCCAGGGG	120
30	GCATGCTGT TTGAGGTCA TTCTCTCTC AAACCTCTCG GTTTGGTAAT GAGTGATACT	180
	CGGTGTAAG ACAAGGTAA CTTGAAAATG CTGGCCATGG GCGGAACITG CGCGGACTGC	240
35	GGTCTGAGCT AGTTTCTACA CTGGGTATTA GGTTCGACC AGATGTGGA GTGGAGCTGG	300
	CGCTTGAAGA ACGTACGACA AACAAGGCTT TCCAGGCGAA TAGTATTCCC AAAGTTTGAC	360
40	CTCAAATCAG GTAGGATTAC CGCTGAACT TAAGCATATC AATAAGCGCA GGAAAAGAAA	420
	CCAACCGGGA TTGCTTAGT AACGGGAGT GAAGCGGCAA AAGCTCAAT TTGAAATCTG	480
45	GGGCTTGG CGTCCGAGTT GTAATTGAA GAAAGTACCT TGGTGTCTAG TCCTGTCTA	540
	TGTTCTTGG AACAGGAGT CATAGAGGT GAGAATCCG TCTGGCGGG GTGCTAGTGC	600
50	CATCTAAGT TCTTTCGAG AGTCGAGTTG TTTGGGAATG CAGCTCTAAG TGGTGGTAA	660
	ATTCCATCTA AAGCTAAATA TTGGCGAGAG ACGGATAGC	699

(2) INFORMATION FOR SEQ ID NO:775:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 742 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1499RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:775:

GATCAGCTTC ATCGATTACC CAGAATTCGG CTTC AACAGC AACGAGGCCA CCGAGATGCC	60
CTTCGGCTAC GTACTGGAGC CTGCTGGCAG GCCATTCTG CCATCAGGCA TGCTAGAGCT	120
CATCAAAAAG GACTCCGAAC AGAGTCTGGA TGAOCTACTT TAGGCTOGTT GAACAACAGC	180
TTATAGATGA TGTATATATG CCGTCTGTC GCCAGAGACT GGCATGGAA GCCACCAAC	240
CTAAAGTGA TAGAACTCTG TCAACAGAAT CAGTCTTTTT CCTCTTCAG CATCTGCCA	300
AGCAGCTGCT CGAAATCGAT ATCATCAGAA GTGGTTTTTG CAGGAGCAGC TACGGGGGGC	360
TGCTGGGAGC CAGCTCTCT AGCCTTGTC AATGACACAC CCCCAGACAG CGTGAATAGC	420
GTGCCAAGCA CCAAACATG AGGCTGAAC GGCCTTCCAA AGATGTTGTA AGCTTGACCC	480
ATCGCTAATC ACCGAATCCG CTGCAGATAT GGGTCTGAT GGTCTGGTGT GTAGCGGTGT	540
GCATTTGTGA GCTCTATTG GCGGAGGAG CAAGTCGATC TAGAGGGCTA CAATGAGGTG	600
TTGGGGTGT TTTCAGGTA CCGAGGAGT AGCAGTGAT CGTTCAAATA TCTGTACCGC	660
CCCATGAACA TCTATTGGT GCATTTGGTT TGAGCACGG GCGATCATG GAGACTAACA	720
CTACGAATT TTGCTGGCG GA	742

(2) INFORMATION FOR SEQ ID NO:776:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1499UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:776:

GATCGCAATG GAGAAGGTAA CGCTGCTACC GAAGGTTATC AGTGTTTGA ATAAGGCGAA	60
CCTTGCGAGC ACAATTTTGG ACAATAATTT GCTACAGAGT GTGCGGATCT GGCTTGAGCC	120
ACTGCCGGAT GGATCCCTAC CATCCTTGA GATACAGAAG TCTCTCTTTG CCGGATTGA	180
GAACCTOCCC ATAAAAACAG AGCACTTCAA GGAGAGCGGA CTGGGGAAGG TGGTCATATT	240
TTACACCAAG TCTAAGCGTG TAGAACACAA GCTGGGCGG CTAGCTGACC GGCTGGTTGC	300
AGAATGGAGC CGCCTATTTA TGGGCGCTTC CGATAACTAC CGGACAAGC GTGTCTGAA	360
GATGGACTTC GAGTGGAGA AGCACCGTAA GAAAGCGCA CTTGATTCTG CCAAATCTAA	420
GAAACGGAGA AAGGCTGCAG TGGACGAGGA GAAACACAAG TCACTCTACG AGCTTGCCGC	480
TGCGAAGCGG AACAGAGCGG CAGCGCTGC GCAGACAACC ACCGATTACA AATACGCACC	540
AGTCAGCAAT ATCTCGAAG TACAGACGG GATCCGCAAG GCAGGCGTGG GCTCCAGCT	600
CAACAACAAC GATCTGTACA AGAGACTCAA CTGAGACTT GCCAAGTCTA AACGGTCCAA	660
GTAACCGCTG TGTACTTCAG CTAATAGTAT TATAATAACG TTTAATGATA CTGAAA	716

(2) INFORMATION FOR SEQ ID NO:777:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1500RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:777:

GATCAGCTAA TGGCTGCTTG TCAAAGACCA AATCCTTCAC CCTAGAACT TTCTCTAGAG 60
 CATCCATTCC GATAACCTAG GTGCTTTTGT GTCTTAAAG AATATTGGTT TAATTTGCTT 120
 TCGCGGACCG AGTAAAGCTT TAGTTCAGAT TTTTCAAAG AGGCTTAATG GACACATCCC 180
 AGGATAGTAT GAATGAGAAA GTCCAATTGG TGGCACCATT GTGCTAGTTC TTATATTAC 240
 TGTATACAT CTAATGAGA GTCAAGCATA TATACCAAAT AATTCACCA ATACTAGCTC 300
 TTCTAAGTCT TCAGCTGATG GATTCGGGCC AAGGGGGGGC AGAGCTCAG GTAGGTACCC 360
 ACACCTTCCA AAATCCTCAT GTGGTGAAT CCTATTCTTT TAATCATCTC CAGCCGAGG 420
 GGTCTTTTAA TCTCTGTCAA GTTCTTCATG ACACGGAAAC ATGTAGTGAT TATGTCCACC 480
 GCGAGTACC TTTGCCCCAC AATTCGGGTA AGTAATTGAG CGACTCATCA AGAGTAGCAG 540
 ATAGCAGCAT TTTCTTGATG ACCAGGGGAT GCGGCGAGTC CACTATCTTA AAAACGTTGT 600
 CGCCGTTTAC TAACGTGAAG CCGGCCACGG TGCTCTGCAG ATTGTTGATG GCCTGCCGCA 660
 TGTCACTTC CGCAGTGAAT ATCAGGGGCT CCAGACCATC ATTGGTGTTC TGTAAGTTT 719

(2) INFORMATION FOR SEQ ID NO:778:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1500UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:778:

GATCCCGACC CCCCCTGTCA CGGCAAGGCC CGCCAACGC GAGGAGGAGA TCAATGGCTT	60
TGAOCTOGAG GGGCGCCCC AAAAGAAGAC CAAATACTA TAGTAGTAG TACATTGTAA	120
TACATGCGCA AGACTTGGCG CCAGTTAGCC GCGCGCTCC CAGGTCTTCA CCAGCGCGT	180
GGGTCCGCA GAGGTGCTCA GCAGCTGGCG GCTACCTCC TTGTAGACG TGTCATGAC	240
TGGCCCCGCA TGCAGAGACG CCAGCTGGTC GGACACACT AACTGGCTGG TCAGTCCAC	300
TACGTAGCG TAGCGCGCA CATAGCGTTT GTCTCTACG AAAGGCACC GTGCCAGGAG	360
GGTCCGGTG TTCCGGCAG GGAGGGCAA TCCCCGCTT AGACCTGTC CGGCTGCTG	420
GGGTAAAAG CTCACACTGT CATCGAAGC CAGCGCACAC ACCTCTCTC CATGCGCGA	480
AGTCACAGC GAGGTACAC CACTCCGGTG GCGGTCTGC GTCTTCACA CTGGTCTC	540
GCTGGCGGC TGCTGTAGG CTGTACCAC TGGCTCAATC CCGAGGTGT ATACCGGCC	600
GGCGAGACC GGCAGACG CGCTGATAG CAGCGAAAG TGGTGGCA CAAAAGCCG	660
CGGG	664

(2) INFORMATION FOR SEQ ID NO:779:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 696 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1501RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:779:

GATCTATTTA AATATAACAT ATTATTTATT TCTTTTTTAA AACATTTTAA ATTTAATTAA	60
TTATTTTATT ATTTAATTAA TTATTTTAT TAGTTAAGAT AATTTTATAA CTTTAATTAG	120
AGAGCTAAGG TACACACCCC TAATGCTTTC AGCATTCTTG TGGTACCACT CTAATTAAAG	180
AGTTATTATA TTAATGATAT AATATGTAGA TATTCACTTT TGAAGTGAAG ATATATGTCC	240
CTAAAACATA TGTTTTACCA ATTAACTAT ATCCACTAAC TTTTATTATA TAATTTAATA	300
ATTAAGAATA TTTTAAGATT GAATTAGAGG AGTATTAAAT GAATGAATAA GAGGTGGTGA	360
ATTTAATATA AACTCAATAG ATGATGATTT AGTAGTATTC ATTAAGAAAA TATTATTTGA	420
TTCAATAAAA TCAGGTAGTT TTATATAATT AATAGATTTA TTATTAACTT TATTAGTTAA	480
ACCATTTATT AATTGATCAT AAATAATATA AAGGAATAAC ATTAATGATA TAATAGTTAT	540
TATAGAACCA AATGAAGATA CTAAATTTC AACTAGGAAT AGATCAGGAT AATCAGGAAT	600
TCTTCTTGGT ATACCATTA TACCTAAGAA ATGCATAGGG AAGAAAATAA TATTAAGACC	660
TAAGAAAATT AATCAGAATT GAATTGTGAT AATTTT	696

(2) INFORMATION FOR SEQ ID NO:780:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1501UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:780:

GATCAAATAA AAATAGAAAT TAGCTTAATG GTAGAGCATT CGTTTACAC ACGAATAATT	60
TGAGTTCGAT TCTCAAATTT CTAAATAATA ATTACAATA ATTAAATTT GGGTAAAAAT	120
TAATAAATAT TAACGTATAT AATAATTATA TACTTTATAA AATTACTCAA TGTTATTAT	180
AAATTATTTT CTTATCATTATAAATGATGT ACCTACTCCA TATAATATAT ATTTTCAAGA	240
TTCCTACTA CCTCATCAAG AAGGTATTTT AGAATTACAT GATAATATTA TATTCTATAT	300
GTTACTTGTT TTAGGTTTAG TTTCTTGAAT AATAATTATT ATTATTAAAG ATTATAAAAA	360
TAATCCTATT CTTTATAAAT ATATTAAACA TGGTCAAATA ATTGAAATTA TTGAACTAT	420
TTTACCAGCT ATTATTTTAT TAATAATTGC ATTCCATCA TTTATTTTAT TATATTTATG	480
TGATGAAGTT ATTTACCAG CTATACTAT TAAAGTTATT GGTTTACAAT GATATTGAAA	540
ATATGAATAC TCAGATTTTA TTAATGATAA TGGTGAACT ATTGAATATG AATCTTATAT	600
AATTCCTGAA GAATTATTAG AAGAAGGTCA ATTAAGAATG TTAGATACTG ATACTAGTAT	660
TGTTATTCOG GTTGATACTC ATGTAAGATT TATTGTTACA GCTCTAGATG TTATTCATGA	720
TT	722

(2) INFORMATION FOR SEQ ID NO:781:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1502RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:781:

5	GATCGCTCC AACCCCTGCT TGATCTCCAT ACTCATCTGG TTTTTCAGGT AGCGGGGGTG	60
15	GTTGAATACG GACTTGTGCA AAACGAACAC ATAAGAGAAT GACGCCACGA TCAGGTACAG	120
20	CAGCCAGCCA AACACTGTGG TCACCAAAAA CAGAGACAAG CTCTGCCGCA ACAGGCTGTA	180
25	TGCGGGCAGC ACGGACCGA AAGCATGGGG GCTAACCTCG AACATAAAG GTGCATACCC	240
30	ATATACTTC AGCGGCTCT CAAGGAACT CCGGAACAG CGCGTGGCAT TTACCATCTG	300
35	CTCCTAATC ATCGCTGCT GCCAAGTCCC GCCATCTTC GGCGACAGCG ATGCTGGCAG	360
40	CAGTGTGGCA TACACATAGT CGAAGAAGTA CGAGTGGCAA AACTGGAGCA CTAAATCCAT	420
45	GGTCGGAGAA CGCTATAGAC TAGGAGAAAC AATTTTAGCT CTAGGTTGCC TGCCCTCTAG	480
50	CGTGATAACA GATCCTGCTA CAGCTACTAA AGCCCATCTG CCGCTCTCCT CTGGCTTTTT	540
55	GCACTTTTAT ATGGTCCATC CCGGCACTGA CCTAACGTAC GCGGCTCTAT ACGACGCTAA	600
60	AAAATCAAGT TACGAATGCA CTATACGAAT GCGTTGAGCA AGGAACGAAT CCGTTTGTGA	660
65	ACGACGATAT CAGTGAACG AAGCCGCAAC GTTCGGGTGC CCGGCGCTTA	710

(2) INFORMATION FOR SEQ ID NO:782:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1502UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:782:

GATCAAAAAT ATTGACGCA TTGCGGCTC TTTAGTGTAC TTGGGTGAT TATGGAGATG 60
GCCAATTTAC ATCGGTATTT TGGCTTACT CATAAGAGTA TACAGTGCCA ATTTCGGTGA 120
ATTGAGGCCT ATAAACATCT GGTATGTCTT ATCTTCAGTT CTCTCTGGG ATTGCCCCAT 180
CACTGGGATT CCATTCAGTT TCAGGCTGCC AGGAGTTGGA ACTAAAACGT GGTTTTGGGA 240
TTCTCTGAGA TTCTGTGTC CATCAAGGC AAGATAGGCA GCGTGCTTT TGTATGAATA 300
TGGGTGTAG GATGTCTCAC TCCAGGTGG AAACCTATAT TATGGTGCAA TATATATTAA 360
TGATAAGAGC TTCTCTGAC TAACAGCAGT AACTCTTAAT TGAAGTATTT GTTATTCCA 420
ATCTTCATAC AGTATGTAC CCTGTGTAT TATAGATTTC GTTTACGAAT TGGATCGTC 480
TTTCGTGGCT GCGAGGTGAG AAGATGATA TAATAATATA TATATTATTA AATTATGGTA 540
GGTAGGGAAT TGCTATTTGT GTCTAGTACT CGATGCCTTA TCTACAACTT CTAGTTGCAA 600
CACATGATAT GCTGTGGACC AAAACGCTAC GCGTTATTG ATTTTATTCA AGGTCAAGAT 660
CATATATTAG CGTAATATCT GTGGAGGTC CT 692

(2) INFORMATION FOR SEQ ID NO:783:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1503RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:783:

5
 GATCTTCGTA TACATGTGCG AAAGCTCCTC CAAAATCTTT TGTCTCCAT CATGAGAGGC 60
 10
 TGCTACAGCT TTTGAGCGGA TAGAATTGGA AATACCATTG GAGATTGCTA TTAGTAGGAA 120
 GACAATATAA GTACCATCTG TCGATGGGGC AGAGGCTTTA TCAAGAAGGT CCATCAGCTT 180
 15
 GTTCTTGGAT ACAGCAGTCT CATTTAATAA TAATGCTGCG TCACCACTGG GCAAAAATTC 240
 AGAAACATTG AGCAGTTCAG AGAGTGAGTT CGACTCAAAG TTTTGGTCA TTGTCTCTAA 300
 20
 CAAGACAAAA ACAACGTCTT TCTGTCTCTC ATGAACATCA TAAGCCTTGA AAACCTCGAG 360
 CAAAATAGTA TTGTCTCTGA TCACGTTCAA AAATACCTCT AGAATTAATG CCTTCTCTCA 420
 25
 CAATAAAGTG TCAGATTTAG GAGACAGAGT GTGGATTAAT AATGATAAAA TAACTTCCAA 480
 TTCCAATTCC AGCAATGTCA AATACTGAAC CTTTATGAGA AGTGTAATAC ATCTGGGCGT 540
 30
 ACGAACCACA ATTGCAAAAT TTTTGATGA GGAAATGTAC CTCAATAGCA GGGGCACCGC 600
 CTTTGTTCGC AACAGAAATA ACAGATCTCG GTGTGTCAA AATAATAATT CATAGTTCAA 660
 35
 TAAAACCACT TCTAGGAGCT CTAATCCATA CTCTCAITTT ATGCAATTGC TATCCA 716

(2) INFORMATION FOR SEQ ID NO:784:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 637 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1503UP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:784:

5	GATCTGGCGG CTTCGAAGGG AAAGGGGGGC CCCAATCCCC AGTCTATGTT CAAGAGGGGG	60
	AACAGCAGGC CGTCATGGCA TTCAATAAGC GAATGGGCAC TCGAGCGTTG GCACATCATG	120
10	TGCTGGATAG CATCATATAC TACACAGACA AGGTGGTGGT GAAGGGGCTT GGAAATTGTG	180
	CCGGAGCTT ACCTTCCAAG ACCTCCTCGG CGACAAGCGT CAGGGGTGGT GTAAGGAAAC	240
15	GCATTGGTCT CGAAGGCGCA AATGATGTCT TTGTATACCG CACAAAAGAC CTGGTATTGG	300
	ATAGTGAIGA AGATATAACC AGAACCTAAC TACTTGTTGTC GATATTCTC ACACCGCCTG	360
20	GTGCGGAACC GGGGGCATAC ATTGCTTTTA CACAAGAGGG GTTGATGCAT AAAACGGCT	420
	TTCAAAAGTG GCAAGCGAGA GCTGCGACT GTGTTGCTT TTGGTGGGC GACTGTAGGC	480
25	AATGTGCCAT CCGTGGGCC TTCTTTTACG CGAGATCCAG TCTCGCAAGC CTGGCTGTAA	540
	CCAGAACACT CGCTGAAGC CCGGACAGG TCCCTGTGG ACCAGGCAGG CAGCCTTGCA	600
30	TCTGATAGGC CGGATACTGG GTATCTGCCA AGAGAGG	637

(2) INFORMATION FOR SEQ ID NO:785:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 708 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1504RP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:785:

55	GATCAATTAA TAAATGGTTT AACTAATAAA GITAATAATA AATCTATTAA TTATATAAAA	60
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CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

5 ATTGAGITTA TATTAAATTC ACCACCTCTT ATTCATTCAT TTAATACTCC TCTAATTCAA 180

TCTTAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTAATTG 240

10 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTCAAA ACTGAATATC TACATATWAT 300

ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360

15 GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420

AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480

20 GTGATATTTA AATAGATCAA AATTTCAACA ATTTCATTT CATTTAGTAC TACCATCACC 540

ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACITTAG CTTTACTAT 600

25 ACATGGTATT ATTGGTAATA TTTATCCCTT ATTATTATCT TTATTAGTAG TTTTATTACK 660

AATAACTTTA TGATTTAGAG ATATTGTAGC TGAACITACT TATTTAGG 708

(2) INFORMATION FOR SEQ ID NO:786:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1504UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:786:

GATCTTAATT TAAAATTTTA ATTAATATT TATAATTTAG AAATATATAA TCTAGAGATA 60

55 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATGAAAA TTAGTAAAT 120

AAATAGAAAA CCATAAGTTA ATTGATTCAAT AAAGAAAAAT GGAATTATTT GTGGCATCTT 180
 5 AATTTTATTT ATTAAATGA TTATTATCTA TTTAACATAA AACATTTTAA AATGTTATAA 240
 AATAAATAAG AAATTACTTA TAGAATATTT ATTAAATAGT ATTAAATTTA ATTTTAATAT 300
 10 TAAATATACC ATTTTATTTA ATAAATAGAT TATTAAGTTT ATTAATATTA AGTGATATAT 360
 AATTTAATTT ATATAAATTA TTTAATTTAC TTCATTGATA TATATAATTA TTAAATGTAC 420
 15 CTTTCATAAT ATTTATTTTT ATTAGTCTAG TAATATTTCT ATTTAATAGT CTACCCTTTA 480
 ATTGGATATT ACTACCTACT AAATATTTAC CTAATAATAT ATTATTAAGA ATACTTAAAT 540
 20 CTAATAATTT ATTATCTAAA GTATATAAAT TAATTAAATC TTTTATTTA TTATTTAAAT 600
 TATTATTAAT TAGTAAATTA TATTTATTTA TTTTAATTAA CATAATTTTT GATAATAATA 660
 25 TACATTATTA AATGGTAAAT TATTAAATAT TATCTTTAAT GATTTAATGA T 711

(2) INFORMATION FOR SEQ ID NO:787:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1505RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:787:

50 GATCATCTTT ATACCAITGG CTCCTGTTCC GTGTGCACCA AGTAAATCAA AAGCGTGTGC 60
 CCCCTOGCTA CGCAGGAAGC ACTAGAACTA GCTGAGTAA GCAACGGTGA AAGTCGATCC 120
 55 CTGATATATA TACGAAACCA GAGATACCTT CATCACAAGG ATCTTGTTC TGTGGGCCA 180

ATGGTCACGG CGTCTGGCTA CGATAGTAGT TACTTCTGAA ACCAGAAGAT TCCAGGTTGG 240
 AGTCTCTGGG GGGAGTCTT TATTTTITTT GTTCCCTCTT GTTTCAGCTT TTGTCCTTAA 300
 AAGGAGCAGA AAGATTATTT TGCAGCTCTC TTTTGGGGCC AGCTGGCAAA AGCGAACTGT 360
 TGATTGACAA GCTTTTAACC TGTTATTAC CACCAGCAAC CTCTCGAATT TATCATGTCT 420
 CCATCAAATA AGGATATTGC TGCCTTAATT GTTGACTTCC TAACTACGTC CGCCAAAAC 480
 GTAGGAGAGG ATTACGAAGA TTCCCTCAAA GTGGCAATTG ATTGTATCAC TGAAGCTTTC 540
 GAACTTGGAC CAGGCGAAGC TGACACATTA GTTTCGAAA AGTGTGGGG AAGAAGCCTC 600
 TCTCAGTTGC TCACCACTGG CATGGCTCAC ACCTCAGATG CAGGCGAACC GAAGGTAGCC 660
 GCGAAGAGT TGAAGAAGGA AGCTGAGGCC TTGAACTGG AAGGTAACAG 710

(2) INFORMATION FOR SEQ ID NO:788:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1505UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:788:

GATCAAGCTG GACAAAAACT TCCGTAACCTA TCTGAACCTA CTGGAAATGG TTCAGGGGTA 60
 CGTGGAGCTT AACATGTATG AAGATGTCTG GCGAAAGCTC GTTCAATTAA ATGGGAAAAA 120
 TGAGCCTGAT AGAGTTCCAG GATATTATAT TACGAGGTCT ATCTCACTGA ACCAGCTTTC 180
 CACCACTATA TATCCTGAGG AGTTGGATAA GTTTAATCTA TCTCCTGTCA CCGAGATAGA 240

AAAGAGGGTC GTGCAAGCCA CTGAGTGTTC CTGAAACTA ACATTAACAA ATAGCCATCA 300
 5 TGAAAAGGCG CGCATACTGA TATCAACCTT TCAAAAATTG ACAACGAAAA CTTCTCAAGC 360
 TACTTTGGAT CCAATGATTC ACGCAGATAC CTTACTGGGT TTGATGGTTG TTGTAGTTTG 420
 10 TCGCGACAA GTTAAAACT TGAAGAGTCA TCTAGATTAT CTTAGAGAAT TTGCGCAGAA 480
 TTGGATGAC GTAAAGTTTG GGCTCCTTGG GTATTGCTA TCGACGCTCG AAGCGTGGT 540
 15 CGGATATTC GATATTGGCG GCAGCTCAAT TAACTTGAA AGATTGATCA CACCATGTCC 600
 AAGGAATAAG ATCTTCTGGA ACTTGATAGA GCAAGGAATT CCAATAAATT TAAAGGAACA 660
 20 TGAAGAAGTC CTCATATGCG GCACTCCGTC CTGTGAATCA TTTTGTCCTT ATGTT 715

(2) INFORMATION FOR SEQ ID NO:789:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1506RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:789:

45 GATCTACCGG TTCGGTATCC CCTTTGAAA ATAAATCTT TGTCCTTTGC ATGCAACTAA 60
 AATGGGATGA AGATGCAAGG GATGTTATTT TTAAGTATCT CCATCTTTTG GAGCTTTCTT 120
 50 CACAGGCTGT AACATTAACA AGGTCAAAAA CTCTACAGGT TATAGAAAGG CTTGTGCACA 180
 GAAAATTAGC GTATACGAAG TCGGATGAGT CTATTTTCAG CAGCATTAGT GATATTCCGA 240
 55 TTGATGGACA TGACTTGICA ACCGCTGAAA CATCTTCCGA AGAGCAGCCG AAATCTCAAT 300

CTTTGTTGGA GCTATTTGAG GAGAAAATAT ACAGCCTAAA CACCGAGGCT CCTTATATGA 360
 5 CTCACGATGA CCACTTCATC CAATTTGTGG CTCTCAAAT TCAATTGAGC ACTAAGGAAT 420
 CGCCCGGAAC GTGTGTGCTT GTTACTGCCC CTTGCGATGA ACTGAAAATT ATAGACTTGG 480
 10 ATTCAAATAC TTCGGACAAT GAGTATWATG AAAATGTCTT TATGACGAGG TACACTGCAG 540
 CATTGATTCA AGCAAATGTA TTTATCTTCC AAGAAAGTGA CTATAAAGTC TTTGAGAACT 600
 15 CATTGTTTAA TCCCAAAGGC TACGGTGCTA AAGTACAGA AAATTGGCAA CCTTGGCTAG 660
 GACTGGAACT ATGTTTTGAA CCGGAGCCT TGCAAATAA TACGGTTATT AAAGAATTTC 720
 20

(2) INFORMATION FOR SEQ ID NO:790:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1506UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:790:

GATCTCCCCA TAAGCTCAAC ATTTTCGATA TAAGATATTT GCGTCCCCGC CCAAAACAAG 60
 45 ACGGTGGGTC CCAAACTCAA TGCCCCATTT GCAACAAAG GCAATCATG ATTGCATCTG 120
 TCCCTCTGGT CAATCACCGA ACTTAACAGT AGTTGACCT TTGTCACTTG GACTAGATAG 180
 50 TTGTTGGTAA CGAAGTAGTA TATCGTGGG CCAGCCAAGT CGCTAAGGAT GGCATCAACT 240
 TGGTGGCATT CCATGTCTTC TTCGGAAGAA AAATAAAGTA CAAACGCCCT GGTATATGGT 300
 55

GCCCCATCAG AACCAATAAC CAAATAACCT TTATAGCGTC TATCATCGCC ACAAAGTCTT 360
 5 GTATACACTT CTTGGCAAC GGCATCCAGT CCTATGGTCC ATATGCTGTT AAAACGCAGG 420
 AATTCTCGCA GGTACAATAT GTTTTAAAA TGGGCTACAT GACCATTAGT TGATATGTTA 480
 10 GACAGCACGG ATGATGAGCA AGAACATAAC TCTTCTGTGA TTGTACCTGA AATGCCAGGA 540
 GTTTTATGCG GGAAAGAGAT CAGCTCTTCC GCGTATGCAA AGCTGGTATC CTTGGTGIGT 600
 15 CTCTAAGAA TATTTGACAT AGACTCCACA TAGGCTCTGT CATGAGGAT TGCAATGCCA 660
 AGAGAGATCT AGCGTTATCT CAAATACTT CCAAACTTA TAATCTGTAA TTT 713

(2) INFORMATION FOR SEQ ID NO:791:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1507RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:791:

GATGGCTGC GCTCCAACGA TGGCAGCATT GCTCTAACG GGGCTGAAAT ATATGTGGA 60
 CTCATGGCTG ACTTTAGCGT CGGGGGGCGA GACAGGTCCA ATGCGCCCGA GGGCTGTGTG 120
 45 CTGCGGATCC ACCTGGAAGG ATGGCGGTGC CAGATGGTTC TAGACGGGAT CCATATCCCG 180
 AACGCTATCA ATTGGAGTGC AGATGGCTCG CAATTCTATC TGA CTGACTC GCTAGCATTT 240
 ACCATATGGG CGTGCCCGGT AGTGGACGGT AGCCACAAAC TCCTCAAGAG AACCCCATTC 300
 55 TACTGTACCA AAAATACTGG CAATGACTCA CACACTTCGC CGGAACCGGA TGGTGGATTT 360

GTGGACTGCT TTAAGTGGCA CACTTTGTGT GCGGTGTGGT CCACTGGCAA AGTCCGAGAA 420
 5 CTGGACAACG CAGGCAGACT ATTCGGTGCA TATACACTAC CGAGGCCACG AGTCAGCAGC 480
 TGTGTGTGGG GCGCCGACG CGAACTGCTC CTGTCCACGG CGCAGCAGG CGATTTCAG 540
 10 ACTGGGCGAC ACTCTGACGG CGTCGGAGGC AGCATTTTCA GAGTGTAAAT CCGGGGCGGC 600
 CCGTTATCC CAAGCCGCAT CCGCGGTCT TCGGGAAGCA TCCTTTAAAT AATATTACT 660
 15 TCTACACCT CTGTCCCT CTACGCCCA GTCATTGAT GGGCGT 707

(2) INFORMATION FOR SEQ ID NO:792:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 570 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1507UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:792:

GATCGTACCA GTATAATACT GGAATTGAC GCGGCGAGCC AAGGCGTGT AATCATCGTG 60
 40 CTGATAATTA TGTCCATAGC CATCCATWAT GGAATTAGCA TCAGCTATTT GCTTACGGTG 120
 TTGACGAGCG ACTGTAAATC TCCATAGAGA ATTCTCTCA ATAATTTCTG AGACWGTCT 180
 45 CTTTTTAAA ATCGGCTTTG GCGCGGACG TTGAGGGGGG CCAGTGCTAC CACCAGACTT 240
 CTTCTTCGAA ACCCGCTTGG AATTTTGTG ATCGGAACCA TAGACAAGCT CTTCCATATC 300
 50 CGCTACGGCA TTGGGTGTCA ATGTCTGAGC GTGACCGCTA TCACGTAATA TAGGCCATA 360
 CAGCCATGTG ACGTCCGAGT CCTTGACCA GTTGACAACC TCTGGGCTCA CGGTGCGTAG 420
 55

ATTATTCGG GCTTTGCCCC ACCTCCTCCA GGATGCGTTC TCGAGCGCG CCGCGTTCAC 480

5 GAGGTCTGC TCTCCCTTCT GTCTCTCTT CAGGATGATG TACTTCCAGG ACTGAGAGAT 540

GTCTCACTCA GCCCAGTGT GCGAAAGGTA 570

10 (2) INFORMATION FOR SEQ ID NO:793:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1508RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:793:

30 GATCCACAGG CAAAATTAT GCATATAGCT TGCTTATATT TATGCGGTGG ATTCTATATG 60

TOGCACGCTA AATACTAATA GCGCGCGTA AAAAGTAGTC CTCGGCAAAC TCGGTAACGG 120

35 CAAGGTGGA ATTATAGAAA CGGACTCAG AAAAATAAT CCAGAGTAAT TAAGGGACTC 180

GGAAAGGGA GCGGTTCCT ACCGAAAAC TCAACGGAAG TATATGAAA AATTATCTCT 240

40 GCAGATTATA CCCATGCTG TTTTATCCAA GGTAGCCAA ATATATACTA CAGGAAATGA 300

GTGACTTTTC ACTTCGAGAG CCCAATAAC AATAATTITA GTAAAATTTT AGCATTCCTG 360

45 CTACTCCAAC TTTCGAATGA ACACTTCTGA AAGCGTAAAT ATATAGCTAT GCGTTTGCC 420

TOCCAGCTC TAACTACAAA TTCCACTTA TGTTGTGTAT TCAGGAAATG CAGGGGAATA 480

50 GTTGAATCAA CGAAATAGG TTAATTTGCA ACCGCTTGT ACGTGTATAA AACCCACCCC 540

55 CCTCCGAAA AGATGACTAT CGTTATAAAC TAAAAACAT CATCAAAAAA GAACTAAGTT 600

ACTGAAAAGA AAATGGTTTA CCGTCTAGCA GTGAATTTC A GCAACCAGCC CACATGGGTA 660

5 ACCAATTTC GAATCTATCG TTGCAGAATA CT 692

(2) INFORMATION FOR SEQ ID NO:794:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1508UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:794:

30 GATCTGGTAA CGACTAAATA AGAATCTCTA CGCAGCAACG CCGGCCCGGT CTGGGCAGTG 60
 TAGTGTCTCT CAAGTGCGCG TCTGGCACTA GTTAGGTCTT GCAGGTTGCC TTGAACCCAG 120
 TGCGGCTCGG TAAGCAACGA GATGGCGGAA ACTCCCGCCT CCGCATATGC AAGCGCCTGT 180
 TCTGCTGCAA GCGCTCGCT AATATTGCCA CGGACCGAG ACGCAAGTTT TATCTGGCT 240
 ACCACAGCCA GCGCGGGGC GTCCCGCGCC AGCGGCTCAT GGAAGTCCAC CACGCGCGGC 300
 AGAACCCCA ATCGAAAGCT CGCTCCAGG TCGGCCATAC CAGTTCCCGG CATAGCATC 360
 TGCGTGCCA CGTCTCTTG TGGTTGAGCG TATATCTCG TCAGCACAGA GCGCGCGCT 420
 GCGCGCAGCT GGAGCTTGTC GTTCTCAGCC CACGTACCGC CTTCAGCGC TAGCATGTTG 480
 CGCAACATTA GCTGCCCCG GTCCGTCAGA ATGACTCCG GGTGGAACTG CACACCCCTC 540
 ACGGTGTACT TGCGGTGCCG CACGCCATA ACCAAGCCTG TCTCGTGGC CCGCGTACC 600
 55 TCCAGCTCCG CCGGGAACGT TGACGCCAGT CCAGCCAGCG AGTGGTACCG TGTCACTGCC 660

ACGGCTGGG TACCCCTGGA AGAACCGGCG CCGTCGTGAC GCAGCTCGA CGTTCT

716

(2) INFORMATION FOR SEQ ID NO:795:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1509RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:795:

GATCCAGTTT CTCTGCAATT TTCTGAACGA TGAGATATGA GTCTAAGTTG GCTAGATTAC 60
TATATAGCCA GTTGTTGCTT CGACGGGCGA AAACCGAGAC CGGTTCCTTC CTTTGACAAG 120
AAGAATAATC GCCATCTACT TTGTTTGAAT TCTTTAAACC GTCTAACTCT TGCAGTACCG 180
TTTTTGGTAC TACTATCGGA TAGCTGTATT TTGGGGCAAG CACTCGTAGT TCTTCAAGGA 240
TATCCAGATG TGATAACACA TAATTAGTAT CAACGACCAG TGCAATATTA TGCAAGTCTT 300
GCGCACTTC AACCTGGGCG TGAATTACTT TTGCGAAAGT CTCTTGGCCG GGAATATOGA 360
CTCTCTGTG AGGAATAGTC TTAATGTTGT TAATTTCATG GCTGTGATAT TGGTCTATAT 420
CCATCATGCG TTCAGCTTGG TGTTCCTTAA TAATTCTGCG TTCAACCAAT GCATCCAATT 480
CTGCAATGCT ATATTTCTTA TTAGAGTGCT TAGGGTTCCA AGTATGCGGC GAGCTTATGG 540
TATGGTCTT ATTCTGATGC CTACGCTTGC TCTTCTGCC ATGGTCCCTA GACATCTCCT 600
GTGTAGCTTG GTGCATAGAC TGTATATGAT TGGACTCCAT CGGAAGTAGT GGCACGTTTA 660
AAGACATTA ATTAGGTATC ACCTCCATTA ACGTACCTTT GATATTTATT ATATGA 716

(2) INFORMATION FOR SEQ ID NO:796:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 590 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1509UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:796:

GATCTOGAGT TTCATGACGA GTGCATGGAA GATGIGTTTC TAAATGCAAC TAAGGTCOCT	60
AAGGTCAGTG AGGTGCAGTC CTTTATCACT CTAAAATTCC CCTCTTCCTT TGATGATGAG	120
ATACTOGAGT CATOGATGCC AACTACAAGT CACCATCAAG ACTTACAAC TCAAGACGTA	180
CTTGGTGGAT TGGTCGATGC TATGGATGAT AGGCGCGACC AAGAAGACGA TATCGATTGG	240
CAACAACCCC TGGATGTAAT TCCTTTGATC GGCTGGGACA GTCCAGTTTC CAACITGCOG	300
CGGATTACCG GGGTTGCTCG TTGGGAGGAT GCAGACGAAT GGGATCTTGG ACAGAGCAGT	360
ATTACTCCTA ACAAACTAGA AATCCATTGG GTCCAGACGC CTACCACACA CCGTGTGGGT	420
GTGCTAGAAG AAGAACAATC GCTTTTGATC ATGCTGCAGA AGCGCAGACT AGCCAGGAAT	480
GGGTCAAGAA CATTAGCCAC AGCTACAATC AACCATGACC AGGAACTGCA ACTAGAAGTG	540
CCAGATAGAG AAGCCGCTTC GCTTGCCATT GAACACGAGC AAGCCACCTC	590

(2) INFORMATION FOR SEQ ID NO:797:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1510UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:797:

GATCAGAATT GGAAGGGATG TTGCGCGAA GAAGTTGTG ATATCGAGGA GCGCACTATA	60
CCCGTCATG GCGGAAGTT TTCAAGTAC GAATCTCTA TAAAGCACTT GCTACCCCCC	120
AACGCCACTA TAAAGACCC CATCTCTCAG CCAACTGAGG GAGCGGTCAA TGCTCCACCA	180
TTGGTTGGCG CCGTTTATCT ACGCCCAAAA ATTAAAAAGG ACGACTTAGG TGAATATTCC	240
ACCTCGATG ATTGTCCAG GTACATTATC AGGCTGGTG ACGCGCTGA GGTGGGTAGA	300
ATCGACCCAG AAACGGGAAC CATCATTAAC AATTCCAGA CCGCCAGTGT ACTACCGAAA	360
ATGAATATGT CTACACCAG TCTGTCTCT TTGAACCGCA ACGGTAGCTA CTGAATTTG	420
ATAGGCGGTT CCGGTAGGCC AATTACATG ACCAGGTCCA CCAATACTT CGCACCAGTT	480
CCTAACGGCG ATCTGAGAAA TCTGCCAATC GTGCAACAAA TACCGAATAG CACTATCCCA	540
TCTGGCAGT CGTCTGAAA AGGCGGCATA CAGGGGGACC ATGGGGGGTT CAATTAAAGG	600
TACTACCCCT GCATACCAAC CCGCTCCAT TATTAAATAC CTAGCCGCC AGGCTAAGAC	660
AAACAATACC GTTCTTGAA ATATCTTGGT CGATACGCC GGTCCTACG TTCTCTATA	720
TCT	723

(2) INFORMATION FOR SEQ ID NO:798:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 693 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1510UP

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:798:

15

GATGCCGCT ACTGTTCTAC GACCACGGC GGGGGCTGAA CCTGGCGATG GGGTTCAGC 60

20

TGGAGGACCC GCACGCGCGG GGGAAAGAGC GGGGCTACTG CCTGGTGCTT ACGGTGGAAC 120

TGGGAGAACG GGGCCCGGCA ATGGAGATCG TGTCGCAGCA CTGGAAGTTC ATCTGGGGCG 180

25

CGTTCGAAA CATGATCGAG TACATCAAGC AGCAGCGGG CGGGAGCTG CTGCGGGTGA 240

TGCAGCAGGG GCAGGTGCAG GGCACATCGA ACTTTTCGTC CATGGTCAGC GGCACCTATC 300

30

TGCGCGGGAA CAACCTGAAG ATACCGAAGA ACATCAAGGA GCTGACCAAC GATAGACTGC 360

TGTTGCTCAG GATACACAAG TGAATGCAT TTATACTGGA TAGACTGGA GGCAGCTGG 420

35

ACTGAACCTT TGGGGGGTG GCTGGCGGC AACAGTTGGA AGATAGAAGA CAGAAACGCC 480

CGGAAGCCG AGGCGCGAGG TGGAGGCGT TACATAACTT ACATTCTTAA CTAGATAGTG 540

40

TTGCGCTGTA CATCAAGTTC AGACGTTAAG GTTGAACGG GCATCGGTGA TGTGTTGCT 600

GAAGGGGGCC AATGCAGATT TGACGTCTT GTTGATGAAC TTCTCCACCT GCTGTGGGGC 660

45

CCTGCCACCA AACGTGGAGG GGTCCAGCAG GGA 693

(2) INFORMATION FOR SEQ ID NO:799:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1511RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:799:

GATCGACCAG CTGGTGATGG ATAGGCGGCT GGTGCCGCTG GGGCGCTTCG TCGGGGGGCC	60
CGATTTTGGG CTGTTGTGCT GGGTGAGGTG GACGCTGCAC AAGGTGGTGG ACCTGTCTGT	120
GAGGAGCCGG GTGCGGGAGA ACGGACGGTA CCTGCGGAAC TGCGCATACG TGAACATGGA	180
CGTGCTGGCG GCGCGGCAGG GCGCGGTGGA GGGGCGCTG GAAGAAAAGG TGGTGGCGCG	240
GCGGACGGGA TATACGGACC TTGTGTTCTC GCGGAGGAG TTCTACGGCG TGGTGGCGGA	300
GAGCCTACGG GGACCGGGGG AGTACGATGT GGTGCTGGCG GACCTGGACA AGCACCGCAA	360
GGCGATTCTA GTGGAAGGAG ACGTTGTGAA GGTGGTGATG CCGGCGGTGC GCGGCTGGT	420
GCAGCGGTTT GGGCCTGACC GCGTGACCGC AAACGACCGC CACATCGCAG AGTTCAAGGG	480
CTGCTGCGA TTGGTGGAGC GGCAGGTCCA AGCGATCCAC GGGCACTCG AAGAGACAAC	540
CCGGGCGCTG CGTTGGGGCC GTCCCGGGG GCGCCGCACC CGATGTGCAG CGGCGGTACC	600
TGCGGATGAA CAACTCGGC AGGCCAGCCT GTCTCGCGG CTCAACCAGT TTACGAACCT	660
AATGGAGATC AAGGAC	676

(2) INFORMATION FOR SEQ ID NO:800:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1511UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:800:

GATCTTGCCC	CACGGCCCGT	CGCTCAAGTT	CCCCCCGTCC	GCCACAAACG	CCCCGAACAT	60
GGCGTCATCC	ACGCTGGGCT	CGCTCCACGG	CGTCTCCCCA	GTCAGCAGCA	CAAACACAAG	120
CACTCCCGCA	GACCAGATGT	CCGCGGTGTC	CGCGTGGTAC	GCCCGCTCGC	CCACCACCTC	180
CGCGCCAGG	TACGGCAGCG	TCCCCCGCGG	GTCGCGCGCC	AGCCGCCGGG	TCCCGTCGGG	240
CCGCGGAAC	CGGTCGCCA	GCCCGAAGTC	CGCCACCTTC	AGGTTCCCGG	CCCGGTCCAG	300
CAGCATGTTT	TCCGGCTTGA	TGTCCCGGTG	CGCCACGCCG	CACGCTCGT	GCAGGTGTGT	360
CAGCGCCCGC	ACCAGCTGCT	GGTAGTAGAA	CGCGCCACCT	CCGAGTCCAC	CCCCACGTCC	420
GGCTCGATCT	TGTGGAAGAG	GTCGCCCCCG	TCCGCCAGCT	CCATCGGAT	CCATAGGTAC	480
TCAGGTGACA	CATTGCAGTC	CAGCACCTTC	ACCACATGTC	GGTGCCCGCG	CACCGGTCT	540
GCAGCACACC	TCCGCGGTCA	GATCTCTGTC	CGTCATCCCT	CGCGCTTTGC	AGCGCTGGAA	600
GTGCACGAAC	TTCACAGCCA	CTATCGTCTG	CGGGTCTCGG	CGCAACGAAG	CGGTTTTGAA	660
GAACGCAACG	TGCCCTGCCC	AATGCTCTCC	CGAAGCTCTA	ATTCTTTAAT	CTCCGGGAAG	720
CA						722

(2) INFORMATION FOR SEQ ID NO:801:

(1) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1512RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:801:

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GATCTTGACT GGAAGGATGA GGAGCAAACC CCGACAGCG GAGAACTGC TATTTGGTG 60
 TCTACACGG GCTCTACTCG CATCCAAGTT TAGCTATACC TGCCTATTAT CTAGATATCT 120
 AATGCCTACC ATATGTTGIG ATGACACTGA CATTGAGCCT TTAACCACTT CAGCTTATTA 180
 AAAGATTCCA GACATACAGA AAAAATCCGG TGTAAAAGT TATACATATA CACCATTTTA 240
 CCTATATACG TGTAGACGAG TAGAGCTACT AAGCAGCCCA AGAAACACTA CCATATTCAT 300
 AATGGCGAGC CTAAGGACTT TCGATGCGTT CCGTATGTGC CGAGGGTTAT AGTGCACACA 360
 CGATGCAGTA CTAACAGTCG TAGCAAAAAC CGACCAGCAG CAGTCCGTC GGTCACTCTG 420
 CGGGGGCATT ATGTCCATAA TGATGTACCT GTTCCTGCTG TTTATCGCGT GGGGGGAATT 480
 TGGCAGCTAC TTTGGGGGCT ATTTGGACGA ACAGTACATC ATCGACCCCG AACTGGGGCA 540
 GACAACGCAG ATTAACATGG ACGTGATGGT GCAAATGCCG TGCAAATACC TCGAGTCAA 600
 GGCAACTGAT ATTACCAGGG ACATTAAAGA CGTGTGAAA AGACTGGTGT TCAAGAATAT 660
 CCTTTCTTC GTACCGTACG GCACCACATT TGACTCTGTT AATGAGGGTC CGCACCCCGG 720
 AC 722

(2) INFORMATION FOR SEQ ID NO:802:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 679 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1512UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:802:

10

GATCGAATGG CATCCCATTC ATCCGATGAG GACGCTATGT TAAATAAATA TTATCTATAT 60

ACTCTAAATA CTATATGGTT TCATCGGTGT TACCGGATT TAGAGATGG CGTCTCTGTC 120

15

TCCAAGCTTT AACTCGTGTG GCTGACGATT CTACATAACG TGTATTGACC AGGCTGAGCA 180

GTAACGTTAG CAACTTGGAC ACCAGTTATG AGTACCGATT TCGACAGAAT TTATTATAAC 240

20

CAGTCAAAGG TGAGCGGTGG CTTCGGTTTG GCGAAGGTG GCGTGGGATG GAAGGCTTCC 300

GCCACTGGCG GGTGGGCTGC CATGCAAAAC AACGAACCA TTCTCTTGAC TGGGAACGAA 360

25

CTGGCTTCCG TGCAATGGAG TAGAGGGTGC CGTGGCTACG AACTAAAGAT TAACACGAAG 420

AACAAGGGCG TGGTGCAGTT GGACGGTTTC TCGCAGGAAG ATTTACATT GTTAAAGAAC 480

30

GATCTCCAGC GCAGATTCAA CGTGCAGTTG GAACACAAG ACCACTGGCT TGGGGATGG 540

AATTGGGGTA CTACGATCT GACAAGAAAC GAGCTGATCT TCTCCCTAAA CGGGAAACCA 600

35

ACTTTCGAAA TACCATATTC GCATATCAGT AACACGAATT TAACATCAA GAACGAAGTT 660

GCGCTGGAAT TCGACTTGC 679

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(2) INFORMATION FOR SEQ ID NO:803:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 721 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1513RP

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EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:803:

5	GATCAACTGT TGCTCCAGTT GCTCCTTGA CTGGTCTC AATTCAAAG CTTTAACACC	60
	GGCTGAGAT GAGATGTTAG TACTCCGGC ACCTATCAAG CTGGGAATGA CATTGCTGGC	120
10	AACCTGCGGG GCGCATCTA CCCCTGGCT ACCGCTGCT GGCTAACCG GTATGGGCTG	180
	CTGTGGGCA CTTCTGTCC AGGATTTAA GCTCTAAG GTCACCTGA TACCCAAAG	240
15	AAAGCTGCAT GCCATCATC CAGCTATAC ACCGCTGAC ACATACCATT ATGATTGATT	300
	TTGCTGTATT TTGACTAAG AGCCACTCCA AATGAAGTC CTCTTCTGTT GAAGATGTTG	360
20	GCCTGCTGTG GAAACCGACT GTGCTCGCT CGGTGTGGC GAGCGAGTCT GTGGAGGAC	420
	GCAGAATCTT CAGCTATACA ACCACACAC CTCGAATGT ACGGATGCA CAGTCAAACA	480
25	CAATTCACAA TCACGTGACC TACAGTGAA ATTAACGATT TGGCAGATC GCAAAGTGAG	540
	CGCCAAAGGC GCGACGAAC ACGGAGCGG GTACAGATG GGTGGAGCTT CTTACACTAT	600
30	ATATCGATGG TAACAGTGCA CGCACAAAA AAAGTAGTAT ACTAGGGTCT ACGAGACTTC	660
	GCTAGTTCAT TTACAGCTA ACCTAAGAT TAATTATGCC AAGACAGTGA TTGGAAGGAG	720
35	A	721

(2) INFORMATION FOR SEQ ID NO:804:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 726 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1513UP

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(x1) SEQUENCE DESCRIPTION: SEQ ID NO:804:

5	GATCTTTAAA ATTGGCAAG AACAGCCAAC ACTCCCGTCA AAATAAGAG CAAAGCGCCT	60
	CCACACCTCT ACGAATCAGG TCCGAAAGGC GATCTTGCAG TGACGAGCAA GGTACAAAG	120
10	AAAGTTAGAG AGTGCACAG TGCATGTGAC GACCAGCAGC ATAGTTCTCG GGCTCGGGC	180
	ACTGCAGCAG AGGGAGCGCC TAGTAACGTG GTTCAACCGT CCTCGGTGA TTTGAAGAAA	240
15	CTCGCAGAAT ACACACTCTC CACCCCTACG TCGAAGAGT GCATTAATAA ACGGCTGGG	300
	TCCACGAACG TCCAGGAGT GAAGCTGGGG GGAAGTCACT TTCTGTTTGA CAAGACGCTA	360
20	CTACTGTGTC TTACATGGC ATATCGGTTC TACCGATACT TCCAATACCA GTACAACAGG	420
	CTGGGTATCA AACTACTGAA TCTGGCCTAC TCGCGGTCCA ATACCCCGCA GCTGATCAGA	480
25	CAGGACGTGC TAAAGTTGCA GAAGGTCCCT AAGGGCTGG CAGGATTTT GGCATACAAG	540
	TCTGAAGGGG AGGTGGGGG TGGGTCCAC GGCTTGATAA ACGACGGAAG CAACGTANTA	600
30	TGCTGGACTG TGTCTGGGG CATCAAGCAC CTGTGCTTT ATGATCATGA CCGGGTGCTC	660
	AAGGCCAACG TGCACAGTT CCGCCAGGC GTGTACGATA CCTGGGCGC TACTACGGCC	720
35	CAACAA	726

(2) INFORMATION FOR SEQ ID NO:805:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 736 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1514RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:805:

5	GATCTGGGTG TATATTTGGA TGTATATGGA CTTACACTT TCGAAGCAA TGGAACTCGA	60
	AAGCTGGTTG ACCACTCTGC TGTATCTCG TAGTCTTTCT GAAACGACG TAAGAAAATT	120
10	AACCTTGAGC GGCGATAGG AAGATGCAAC TTAAATTTC TCTACTTGGT TACTCAAATA	180
	CTGATATAAT AATGCAGCT CAAATATGCT GTGGAAAACA CCACTTTTCG CGTTCGGAAC	240
15	ATTGGGTGGG ATTTGATAA CCTGATTGGA GATCGGGAAC AAACGACG TAGTAGCCAG	300
	TAACGTGTAG GAAATATACT TTAAAACGTC GGCTCGGC ACCATGTTGC TGTAGTATGG	360
20	GTTAGACAGA TATGCCAATG GAGTATGTTG CTGCTCGGC CGCTTGGGA CCGGCGCGC	420
	GTATGCAGAG GTTACCGCG ACGGCGCTC TGAAAGCGC TCACATTCT CGAACGACTC	480
25	TGCATAGACA CTAACCGGCC TCGACGGGT CATCAGGAG TTGTGCGTT GCAGCGTGC	540
	GTTCGTAAGA TATCCAGAG CGGTGCGCT GTGTGGAG GCGTGCTCT CTTGCGGCAC	600
30	GCTGTTGAGC ACGTCAGT ACTTCAGCAC CTGCTCTTG CTACGAAAC TCTCCAGCAC	660
	TTTCAAGAAC ATCTGAACT TCCCCACTG CTGGTCTGC TCGGGGTGC GCACCATCTC	720
35	CGCCCGTAC ATGCTC	736

(2) INFORMATION FOR SEQ ID NO:806:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 717 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1514UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:806:

5	GATCTCCACC GCGTCCAGCA CCACGATCCG GTCACCGTCC CACCGGGTCA TCGCCACTGT	60
	CCGCGCGAGC CTTTCGAAAA CCGCCCGTCC CTCGCGCGTC GCAGCCCCTC CCCCCTGTTC	120
10	GTCGGTCCGG TGCTGGGCTT CCGCGACCG CAGCGTGGC ACCACCCGCT CTATATTAC	180
	GGCCCGGGC TTCAGCGTGT CCGCTTGAT GCCAGGCTG GTGGGTTTCT CTCCACCAC	240
15	CTCCAGGCTC TTGATAAAG TCGTCTTAAT CACCTTAAAG CTGCGAGTAT GGCCTTTGG	300
	CCCACATAGT AGCGTCAGCG TATGGTTTCC CGAATCGTAC GCGTATATCT TGCCCTGTGT	360
20	TACACCGTGG AGGACGTTGG TCACCCGCAC CTTGAATCCA AGGATATGTT CCAAGTTGAT	420
	GCTCATTCGT CTCACCTTCA AGCCACACA GCTATCTGG CCACTTAGA ATGCCACGC	480
25	TGCTCCCGT CCACTGGCTG ACTCCCAATC GTTCAGTTTG CCGTGTGGT ATTTTTTTGA	540
	AGTGGCGCTC TAGCGATGAA GTAAGATTTT CTATGTATTA CTATGTGCA CAAAGGTTAG	600
30	TTCCAATAGT GCTTGCAACT ATCAGGTGCT GTGGAGTTC CAAGCAGAG AGTTGCTGAT	660
	AGTGGAGCCG ATAGAGAATC CGATAAAGAT TATTCGGAA AATCTAAGGA CAGGTGG	717

(2) INFORMATION FOR SEQ ID NO:807:

(i) SEQUENCE CHARACTERISTICS:

40	(A) LENGTH: 714 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
45	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50	(A) ORGANISM: PAG1515RP
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:807:

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5      GATCCTTCGC CGCGTGGTCA AAGCCCGGAT AGGATATCAC AGGCACTGT GCAAAGGTAT      60
      CGCATATTGT TTCCATGAGC GTTTCGCCCT TGGTCTCTT CGCCGGCTTC CACTTGCACG      120
10     TGGCCGCCAG GAGCTTACAG AGCTGCAGAT AGTTATTACT GTCAAACGTC CAGGGTGCC      180
      CGCGCGTTT GTGCGCCCA GCAGCATCG CGAAGTGGTC CAGGTGCGC CGGACAGAT      240
15     GGAACCGTC CATGGGCACC AACTCAGCTA TATTGACCA TGACGCTGA TCCAGGGCTT      300
      CGCTCGGAT GCGCACGAA TTGGGGAGCC CGCCGGGCC GAAGATAACT GCGGTCCCAT      360
20     CCCCATCGTA GAACTTGIGT GCCTTGAACC CCGGTCTC CAGTGGCGG AAGAACCCCC      420
      GTGCGGCTC CTCGACCAGG GCGCTGAG CAACCGGCAC AGTCTGTCC AGGCTTTCCG      480
25     CAGCAATGCC CGCGGAAATC CTCATCCAC CCCTTCGTGC CTCAGGTGA CTCTGGAATT      540
      CCTGGTTCAG GTCCCGCTTA AGCTCTGCG CCATGCTAGA CTGCGCGAC CCAGGATGCC      600
30     CCACCACCAC TACAGCAC CCATAGTTGC TCTCGATATT CTGAGCAAGG AGATCCACA      660
      CTGCTTCTT TAAGTCTTCG TAGTCCATGC CGCTTGCTGT GTATGCTGC TGGT      714

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(2) INFORMATION FOR SEQ ID NO:808:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 725 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1515UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:808:

GATCTAAGCG CGGCTGTCTC CTCGAAGCGT GTTCCTGCCT CTCTTATATC TGTATCTGGT 60
 5 AGCTTCAGCA TTAAAAAACC GTCCAGAGAA TTGGCTTTTG GCCATGCTCG AAAGCTCACT 120
 AGTCGGAGCG CAGCATCTAG GACACCACTA GGATGCAGAC AGTGTTTTAG CCATTGAGAA 180
 10 GTGTGATTCT GACGCCCCGT CGAGGCCTGG CGCGGTCCAG CAGGCTGCAG TCGGGACACA 240
 ACAAGTGGTC GACGATCAAG CACGATAAAG CGAAGAACGA TGCTGAGCGG AACAGGCTTT 300
 15 TCACGGGAT GGCACAACAG ATATCGGTGG CAGTCAAGCA GGGCGGGTCT GCGACCCGA 360
 CGCTGAACCT GCGACTGGCG GCGCGATAG AAGCGGCTC CAAGGCCAAT GTGACCAAGA 420
 20 AAGTGATCGA AAACGCAATC CGCAAGGGCG TCGGCGAGGG TGGGGGCGGC GACAACGCG 480
 AGGCATGCAT GTACGAGCG ATACGGCCCG GTGGCGTGGC GTTTGTGCTG GAGGCTCAG 540
 25 CGACAACAAG AATCGGACCG TGACCTGGTA CGCGCGGCT TCAACAAGCA TGGCGGCAAC 600
 ATGTGCCCCG CTCAGTACTT CTTCGAGCG CGCGGTACG TGGCAATCCA GGCACCGGC 660
 30 TCGTGGAGA GTTACAAGC GGTGTTTGTAG GTTGTGTCCG AGGTGAGGG CGTAGAAGAA 720
 CTGGA 725

(2) INFORMATION FOR SEQ ID NO:809:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 687 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1516RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:809:

GATCCGACCT TTGGTGGCTT GGCTCGAGTC TTTCTTCAAT TTAAACCCCT GTTCAACAGC 60
 5 AGATGAAATT GTTAGTCTAT CGAGTCCACG TAAAAGACAA TTTTGAAGC TTGAGATGAA 120
 GGGTACGGCC TCTCCGACA AGCGGCATCG CCTGCACCGA AAAGTATCCG GTCACCTCTT 180
 10 CATCATACGG TACCTTCACT ATCTCTTTCC GCCGGAACT AAATACAGAA ACATACCTTT 240
 AACATCCTTA TTCTGTTTAT CCTTTCCTGA TTTGACTGG AATGTAGCGG CGAAAGGGAT 300
 15 CTGTTTCAA AATTGGAAAC GCTTACCACC TCACCAACAC ACCAGACTT TATTTGCTAG 360
 AAACAGGCGA TGGGCTGAA CAACAGTCAC TAGAAACGGT GCACCAAGGC AGCTTGGCAA 420
 20 CGAGGAGGCA CCTAGGGCT CAATGGTTG ATAGTAAAGC ATGTACAGG GCTTTGTCTC 480
 CGAGAGAAG AACGAGTCT TGCACCTCGA CAGTACGAA TCTGAGATAC ACCACCAGG 540
 25 GTGGGTAGTG GTGGAGGTA AAGCCTTCAG TTTGGGGGA CGGCTGGGG ACGGGGGAGT 600
 ACTTGTGGC AGCCGAAGAT ACGCGATGA GCTGCAGAG CTGGCTCGG AGCTGTCTG 660
 30 CTCGGCTGAC GGTCCGGCT TGGAGC 687

(2) INFORMATION FOR SEQ ID NO:810:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1516UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:810:

GATCATTAAAC GAAATTCCTG TGGTTGATTA CGATGTTGTA TGGGAAGATA TAGCTGGTCT 60

TACAATAGCA AAGAAGTGT TGAAGGAAAC AGTTGTTTAC CCATTTTTCG GGCCAGACCT 120
 5 TTTTCGGGGT CTCCGGGAAC CTATCTCCGG GATGTGTGTA TTTGGACCTC CAGGAACAGG 180
 TAAAAAGATG ATTGCCAGGG CCGTTGCGAC TGAATOGAAT TCAACTTTCT TTTGCATCAG 240
 10 TGCTTCTCT TGTATATOGA AATACTTGGG TGAGTGGAA AACTTGTCA AGGCTTATT 300
 TTACCTAGCC AAACGGCTTT CCCCCCAAT TATATTCATT GACGAAATCG ACTCTCTACT 360
 15 AACTAGCCGT TCAGATAATG AGAAGCAATC ATCCAGAAGG ATTAAGACGG AGCTCTTGGT 420
 CCAATGGTCC TCCCTAACA GCGCCACGGC TAAGGAAACA AGAGAAGCGG AAGAGGCCAG 480
 20 ACCGGTTCTT GTCTTGGCG CAACCAACTT ACCGTGGCG ATAGATGATG CTGCTATTAG 540
 ACGTTTTTCA CGGGTCTAT ACATTCATT GCGGAATAC GAAACAAGAC TGTATCATTT 600
 25 GAAGAAGCTT ATGGCCCTTC AAAAGAATGA ACTTTCTGAA TCTGACTTTC AACTCATTCG 660
 TGCATGACT GAGGGCTACT CGGGATCTGA CATAACTGCT CTTGCCAAAA GAAGCAGCTA 720
 30 TGA 724

(2) INFORMATION FOR SEQ ID NO:811:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1517RP

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 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:811:
 55 GATCAATGAA AAACATGCAT ACGATTTCAT GAAGCAAAAT TTGGCTTGA ATATTGCCAA 60

EP 0 866 129 A2

CTCTATTAC AAAACAGAAA TACTAAAGGA AGAGAACTTC ACGTTATTAT CCAAAGCCCA 120

5 AAGAGATGAC GTGAAAGGAA GAGAAGCGGA GTTATTACTT CCAAGOGAAT TAAATCAATT 180

AAAGATGGTC AATGAGCGTG AGCTGAACGG CCATGCAAGA AAAATAAGAC TACTATOCAT 240

10 GTGGGAAGTC TTCAAAATGC TTTAGGTCTT GCATTATTAT ATACACATTG TAGATACAAC 300

TGGAACTAA TGCAATTAC GTCAGCAGTC TAAAAGTGGT CATGCAGTAA CTTCAACCT 360

15 TCTTTATTCC AAGGACAAAG GTATATTCCC AGCTGTGTCT TAGACAGTGT CCCCAGCTTG 420

AAACATGTGT TACTCAAATG GTTGGCAGTA ACCTTACATT GCCCAGAATG GGTGATGCGG 480

20 TTAGAAGTGG TATAATCCAA CTGCTTCCAA ACATCAGCGT TATTAGGTGT AAAGAAAGCG 540

GATCTCTGCC ACAGAAITTT AGATGGAGCG CGCAAATTC AATCTCATCC 600

25 ATGACAAGTG GAACATCTTT GTATTGTCC GACAGGATGC CTTTAAATGG TAGGTAGCT 660

AAATCTTTCA TCAAAATGA AAGTGGTCCA CTTGTCTTC CATGAGACAA 710

(2) INFORMATION FOR SEQ ID NO:812:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 662 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1517UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:812:

GATCCTCAA ACTACAGAGC GAAGTTGAAA AAGATCATAT TTTGATAGAG CGTAAGCAGT 60

55 GGGATGAAGC ATACGCTCTT CTCAAAGGTG TTGTGGATAG ACATCCACAT CTATATGATG 120

CACATTCAGC ATTCCGGTTGG TGTCAGCTGC AGTTGGGCGA CACTGAAAGC GCTTTAGAAA 180
 5 CATTCCAGCT TATTATTAAT AATGTGAAGA GCAGCGACGG CAGTCGTCT CAGTTCATTA 240
 GCTCAGTACA CTGGCGAACC GCACAAGCAC TTATTACTAA GCAGCAGCAT GAAGATCCTT 300
 10 CAGGTAATGA GTTTATAAAG ATTGCTTTCC AGCATCTGGT ACAATCCCTG AAGATAACCG 360
 ATCTTTTTCG TCCAGGTAT TCCCTTCTTG GACACATTTA CGAAGTGTAT TTTCAAGACC 420
 15 TGACTCGGCG ATTTAGGTGT TACGTAAAG CCTTTGAGCT AGATGCCGGC GACCTCGTCG 480
 CTGCTAAATA CATGGTGGAA TACTATAGTG ACCTGTGCAA TTGGCAGGCG GCGGGCAACA 540
 20 TCTGTGACCG TGTAATCAAG AATGATATGC ATCTCAATTC CGTCAACTGG CGGTACAGAG 600
 TTCTGGGTGT TTATTATTG GAGCTTCAAC AGGAGGCTGA ATCGATCGAA TGGTTCCAAT 660
 25 CC 662

(2) INFORMATION FOR SEQ ID NO:813:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1518RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:813:

50 GATCAAATGC CCTTCCTTT CAACAATTTC ACGTACTTTT TCACTCTCTT TTCAAAGTTC 60
 TTTTCATCTT TCCATCACTG TACTTGTTG CTATGGTCT CTGCCAATA TTTAGCTTTA 120
 55 GATGGAATTT ACCACCCACT TAGAGCTGCA TTCCCAAACA ACTCGACTCG TCGAAAGAAC 180

CTTAGATGGC ACTAGCACCC CCGCCAGACG GGATTCTCAC CCTCTATGAC GTCTGTTC 240
 5 AAGGAACATA GACAGGGACT AGCAACCAAG GTACTTTCTT CAAATTACAA CTGGACGCC 300
 GAAGGCGCCA GATTTCAAAT TTGAGCTTTT GCGCTTCAC TCGCCGTAC TAAGGCAATC 360
 10 CCGGTGGTT TCTTTCTC CGCTTATGA TATGCTTAAG TTCAGCGGT AATCTACCT 420
 GATTTGAGT CAAACTTTGG GAATACTATT CGCTGGAAG GCTTGTTC TGTACGTC 480
 15 TTCAAGGCC AGCTCCACTC CAGATCTGG TCGAAACCTA ATACCGAGTG TAGAACTAG 540
 CTCAGAAGC AGTCCGCCA AGTCCGCC ATGGGCAGCA TTTCAGGT AACCTGTCT 600
 20 TAGACCGAG TATCACTCAT TACCAACCC GAGGGTTGA GAAGAAATG ACGCTCAAC 660
 AGGCATGCC CTGAATACC AGAGGAGCA ATGTGGTTC 700

(2) INFORMATION FOR SEQ ID NO:814:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1518UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:814:

GATGTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTTGTCT 60
 50 ATGCAAAGTC ATTGGGTTTC CCTCTGGCGG CGCATACAAC ACCTGCCTAA CCTGAACAGT 120
 CTCATCTGG GCATCTAGCG ATCCATGGG TGAGCAGCGG AGGATTTGGT GGATTACTAG 180
 55 CCAATGGCAA TCCAAACCA AGAAACGAC TTGGGGGAAT GCTCATTTGA ATAGCCGGTG 240

TTTCGACACT GTGATTCTCT GAGTGTAAOC TCCTCTTTGG TTGCCGATAT TAAACCTGTT 300

5 CTGTGAAACA TCGGAGCGGT GTTTAGTGA AAGCAACTAG AGGAACTCAA AGAGTGCTAT 360

GGCATGGGGG CAGCTGTTGC GAAGGTGTAA AAACCCGAGC TCCGGTTGCG TTGACACAGA 420

10 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CCGTGGTGTG CTTTGCCCAT 480

TTTCGGGTTC TTCTTTAAGA TAGTTATCTG GTTGATCCTG CCAGTAGTCA TATGCTTGTC 540

15 TCAAAGATTA AGCCATGCAT GTCTAAGTAT AAGCAATTTA TACAGTGAAA CTGCGAATGG 600

CTCATTAAAT CAGTTATCGT TTATTTGATA GTTCCTTTAC TACATGGATA TCTGTGGTAA 660

20 TTCTAGAGCT AATACATGCT TAAATCTCG ACCTTTGGGA AGAGAT 706

(2) INFORMATION FOR SEQ ID NO:815:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 699 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:
- (A) ORGANISM: PAG1519RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:815:

45 GATCAGACTG AACCCATATA TCAGCGAGGT ATGGTACCAT TTGGGCACIT TGTATGAGAC 60

ATGCAACAAT CAGCTCAGCG ATGCCCTGGA TGCATATAAA CAAGCTGTTC GCTTAGATCC 120

50 GAATAACGTC CACATAAGGG AGAGACTAGA GGCTTTGACT GCCCAGCTAG CCAACCCAGG 180

GGCCCAGCAG CCTCAGCAGC AGCCTCAACA GCAACAGATG CAACAGCCTA GAGGGCCAGC 240

55 ACCCATTATG TTGCAGCCAA CATTGCAGCA GCAAGACCAA ACAAATCGT TGAATAACAA 300

ACCTGGGTTT TACCGGTCTT CTCCCCACGG AGTTGGGGTT GCCGGAACAG AGTCCGCAGG 360
 5 CCACACACCA ATGTCAGGAC GGCTCAGCC GTTGCAGCAG TTGAACAATA ACGGAAGTAT 420
 CCTGGAACCG TCATTGTGTC CGCAAAGAG GCCTATGGAG GGTGGAATGG ATACATTGGT 480
 10 AAATGCCATT TGCAGCAGG AGTTGCAGCA ACATCAGAAG AACATATGC CTTCTCAGAA 540
 CCATCCTAGT TTGGCCCTGG CTACAGGACA GCCGCAGCAG TTACCAACCG ATGCCGCTCC 600
 15 CATAATACCG CCCGAAAAGA AAGGTGGGCC TCTCCCCCAG TTTCAGAAAA CTGAACCAGA 660
 GCATGGGGCA AAAAGACTGA AGCCCGAGCA GAATAACGT 699

(2) INFORMATION FOR SEQ ID NO:816:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1519UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:816:

GATCAGGTAT CGGCCAACAT ATCGCGTCTG TCGATAGCGT CGAAGATTAT CGTGATAGAT 60
 45 ATAGACTATG AAGTGACCGA CGGCAAGGTG ATCGATGTGA AGCTGGTGCT GGCAAGCAAC 120
 TTGACAAGT TTGACTACTT CAATGGCGAG GCCAACATCC TGCAACGGTC ACTTACCACG 180
 TATAGCGACC TGCACGAGTT CCACCACAAC CTGAAGTTCT TAACCTACT CGACGGGTGC 240
 TCAAGCATCG ATATGAGTTC CAATGTGTGG CAATTGATT TGTTCAGTA TTACTGATG 300
 55 CTGCCGCAGT ACATGCAGAG CTACCTGGAC GACAATGGCG CGCAGCTCAC GGTGCAGACG 360

AACCTGAACG ACCGTTTTGG GATCTACTTG CTCGACCATT CCGAAAAGAA GGTGGCCAAG 420
 CTGACATTTG CCGCTACGCA GGACCCGAAC CAGCGGTATT ACGAATACAA ATACTOGAGC 480
 GAAACGAAGG AGTGGATCAA CCAGTGGGOC GAGTCTTATA CGACCGGCAT CACGCTGGTG 540
 TTCGAACTTC TCGGTGACCC TCCGACGTAC CTGCCTAAGG ATAGTTTGCC GCCAGAACAC 600
 CCTGATGAGG GCTTCACGAG TCCTTCTGGG TCCGAGCTGC AGCGCCGCTT TGCATTCAAG 660
 TGTCAAATC CACGAGTCAC CCTCGTAAAT GACTTC 696

(2) INFORMATION FOR SEQ ID NO:817:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1520RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:817:

GATCTTCTGG ACGTTTCTCT TGAGTTCGTT CATCTTGCCA AGCAGTGA CGTTGGGGTT 60
 GCGCGCAAAA GAGTTGAGCA TGGGCCAAG GCGGCTGCA ATGGCGCCAA ACTTGTCTAG 120
 CACCTTCGTG AGGTAGTTG GGAGCTGCAA AAAGCGCAAC GTATGGCCCG TGGGGGGGT 180
 GTCAAAGATC ACCGTGTGA AGTGCTGCC GTGCCCCGC TCCTGCTTCT TGATGTGTTT 240
 CATCACCTCC ATGAACGAAA GCGCTGTGTC GATGCCCGGA ATGACCCCG TGAGATCTGC 300
 GAGTGGCGCG CCTGTAGCA AGCCGAGAG CCGTCATCA TGGCGCGGT TCGGATCGC 360
 CATGTGTTTC ACGTCTTCA ACGCGCGGA AGGGTGAAT TCATACAG ACAAGTTGTC 420

CATGCCCGTG ACCTTGGCGG CGTCCCTCCC AAACCTTCTCG TTGAACGCAT CGCTAAGGTT 480

5 ATGCGCAGGA TCCGTGAGGA TCAAAAGAAA CTGCTTAGTG GGCTGGGCAA GCGCATCTG 540

GATGGCAATG GAGCAAGAAG ACGTGGTCTT GCGCACACCG CCGTTCCCGC CGACGAAAAT 600

10 CCACTTGTGT GTTGTAGAGT TGATCAACGA GCGCAAAGAG GCGTCTGGTG TAATATCAGT 660

CATGGTTGGT GTACCGCGTG AATCTGAGAG TCGAGGCGAT CTGAGATCTT 710

(2) INFORMATION FOR SEQ ID NO:818:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 685 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1520UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:818:

GATCAAACAG TAATGACTTT GTTAACGGTT TTGAAGTACT GCACGAGCTG CGACTCCTCA 60

CTGCCCTGTG GCGCCACAAG CGCCGAAATC ACAGCAACTT CGCTTTCAAA CTGAATGGCC 120

TCCTGCATGT TCCGTGGGAA CCCAAGTAGC ACGACGCTGT CCCCAGCCTG GCACACCTCC 180

45 TTCAGATAGC GGCCCATCAA CGCAACCAGC GCACCGTTGG GCAGGTGGC CGAGTAGTCA 240

TGCGCATGCA CAGCATGCAA CTCCTCTAAT AGCGGTGGT ATTGTGCTG CTGTGCGTG 300

CGGAACGCT CCAGCGCTG CTGCACGGT ACGGCGGGG CCCCCGCTG CGCCCGGATC 360

TTCTCTACGG GCACATGGC AAGCACCGCC AGCACCTCA GTCATCTGG CTTGAACACC 420

55 GTCACCGCC GCGTCAGGCC GGAGGGGACC TTCTCGAACT CCGCTTCGCT GAACTCTGTC 480

TGCGGCTTGC TCCGGTCAAT CGACTTCGCC GCGTGCAAGA AGATGAGCGT GGTGACCACC 540
 5 GCAACGCCAA CCATCTTCCA CGCGCTAGGT AGATCTTCCG AACCAGGGGC CTTGCTGGCG 600
 TATGGCGCA AAAGTCCCTG CTGACCGCGC AGAAGGAACA ATCTAGGCTT ACAAGTCTGC 660
 10 GAAACATTG TCCTGCGAGT TAGCC 685

(2) INFORMATION FOR SEQ ID NO:819:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1521RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:819:

GATCGAATCT KGTCTGAGGG TCTTCCACGA WTTCAATGC AATCTCCGGA TATCCGGCT 60
 35 TCTGTAGATA CGAGATGATG TTCTGGCCCA CAAGTTTGA CGTACGAATG AGACGCAAGA 120
 CTTCAGGGAA GTTCTGTGTC ACCAAAGCTT TCTTAAAGCG GTACTGGT TGGTCAATGG 180
 40 TCAATATCTC AATATCGCG TCTCTGTTCA AAGCATATAT ATGCTTGOCA TGAGCTTTGG 240
 TAATGTATAG GGTCTTCTC AAAGTTTTTA TGATCCCGCT GTCACCATTC AATAGGCAGT 300
 45 ACTWAATATG GTTCAAAGTA GACAAGAGCA GAACACCAGT TTCATCCCAC GCGCTGACT 360
 TGATCCTGAT CGTCTCATGG TTAGACGTAG TAATCTCCAA CTTCTAGTA GCAATGGTCA 420
 GCGTGIGTTT ACTCATFAAA GCAACGTATT GCCATCTGG GGACCAGACT GCATATTTAA 480
 50 CCATCTTCAG AGCTACCTCC GCCAATTTTT TCCCTGCTG CAGTCCGAAC AAGACTACCG 540

CCTTTGGTTT CAAGATGAGT ACCGCACCAG GGCTCCATA GACAATGTCT TTAACAGTTC 600
 5 CTTCATCTCT GATCGATTG GTTACCTTGT TGTCACACC ACGTACTTCA AGAGATTCCG 660
 ACCGAGAGTT GTAGACAGCG TTACCTATGC CGAGCGACAA AAGTCGAAA GCTTCCCTTA 720
 10 TC 722

(2) INFORMATION FOR SEQ ID NO:820:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 577 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1521UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:820:

GATCCACTTC CCAGATTACA TGATAACATC GAAGCGAAG GTGCAAGGG AAATGTTGGA 60
 35 GCAGTATGAC TTTATWCATA GCGGCTTCAT CAGCGTAGAC GGCAATCAG AAAGCCTCAT 120
 CTGGGCGCATG CCGAAGAAGA CCACCGGCAG TTTGATCAGC TCATCGAAAG TTTTCCTATA 180
 40 TGGCAGAGCA GCGGTCACCA TGAAGACAAG CAGAGGCCCA GGCGTCATCA CCGCAATTGT 240
 ATTCATGTCA TCTACCCAGG ACGAGATAGA CTACGAGTTC GTGGGAGCG AGCTCCATAC 300
 45 TGTCAGAGCG AACTACTACT ACCAGGCGA GCTCAACCAC TCGAGAATGC GCGGCCATTC 360
 GCTACCCCTCC AACAGCCACG AGGAGTACCA CATATACGAG GTTGA CTGGG ATGCCGAACG 420
 50 CATCCACTGG ATGGTCGAGS GCGAGATAGT GCGCACCTTG TTCAAGCGCG ACACCTGGGA 480
 CCGGTCAC AAAATATACA AGTATCCACA AACGCCCATG ATGCTCCAGA TTTCCCTCTG 540
 55

GCCCCGGGGC ACCCCCCGATG CGCCGCAGGG CACCATC

577

(2) INFORMATION FOR SEQ ID NO:821:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1522RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:821:

GATCAAAAGC GAACAGCGCA CTTATGTCTT GCCCAACCGA CGCGTGCTCC TGAATACCCA	60
ACGAGCACTC CCTGGCCTGC TATCTGGGCG TATTCTGTCA GAACGATGCG CGCTAGAAAG	120
TTACCAAGCG CGTCACACCT GTATTCCCTG GCTTCTCTCT CGGCCTTGA TGTGCTGGCA	180
AGTAGTTCTC CACGTTCTGC AGCTGCCACT GGAAACGTGC AAACCAAAAC AAACCTGACA	240
CCACTTCTGT CTCTCGATCG CGTCCAGCCT CCAGAACTCC CAGCGCACAG ATTTTGACTA	300
TAGCAACCCC CGCGACTAGC ACTCAAGAAC TTTC AATTTT CGCTTGAGCC CGACCTTGTT	360
TTTCGAAGAT TCTGACCTAT CCTCCTATCG ACGTCAGGGA CACAAATCAC ACTATAGTAC	420
CTCGAACAAC AGTACAGAAA AGAAAACCAG CTGCTCCAGC CAAAATTCAC AAGTCCCGTT	480
AGCTGCTAAG GCCAATTGGT GATACTCAGT CTTTAATCTT TACCCAATTG CGAAACTTCA	540
CCAAGGAGAG TCTTGGCTCT TAAGGTTTGG CAGTTTGGTT TAAAAATTTT CTTGCACGAA	600
ATGTCAGAAT GTCTGGGTTT CCTTGTGCGG TCACGTGGGT GTCCGTCACG TGGGTGCTAA	660
TCACGTGACA CGTGGATGAC GACTGAGGCG GAAAATTTGC AGGTT	705

(2) INFORMATION FOR SEQ ID NO:822:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1522UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:822:

GATCGACAAT ATTCCCCAC CAGGCGCAAG AATCGAGTGC ACACAGGCCA CGCGCGCATC	60
CGGGCTCGGA TGGCGGGGC TGGCTGCAG TGGCGGCTG GGGGCGAAG CAACTACCA	120
CAGTGTGCTG TGGTGGGCG GGAAGGCAC GCGCGCAGC TGGCGCTGC ATTCCAGCCA	180
CGCATGCACG AAGAGCCGGG TGAACTGCG ACCGCTGGG TGGCTGCTGC AGTCCAGGG	240
CTACATGGGG TTCAACAACG AGCGCGGGC CGTCAAGGC TCGTGTCTAG GGGGACACA	300
TCCGAAGGC CATTACGCCA GGCATGCT GAGCAGGCG GTGGGCAAG CCGGTGTTA	360
CGTGGGGCG CAGAGCCCGT TGCTACCGCT GGGGAGCG ATTGGCGGG CGCTCCACC	420
CAAGCCATCG CATCGCTGG TGGCGGGAA CGGCAGCTG CGCGGCGAG TGCTGCCAT	480
CGTGGGGCCC GCGCGTCCC AGCTACGAA ACGAACAAGA CATGCTCGT TTGTGGCAGA	540
CGATGTACCC GTCCAGCAC GCTCAAGAAC ACATGCTCAT CCACAGGGC GAATGCTTT	600
TCACTGCACT TGGCCCGGT GCTCAAGCG GTTCAAGTC AGGAGCAATA TGAACGACA	660
TGTGAATCC CACAAGGCC CGCTGATGAA GGAAAGCAAG AAGAAATCCA GTTCTCCC	718

(2) INFORMATION FOR SEQ ID NO:823:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1523RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:823:

GATCTTATCT AAACCGCTCC GCGATGATGC TTTGGTAGCA ACGGAAGCCC GCATTTCAAA 60
 GTCAACATCA GCGGAAGCTT GGATAGATGA GAAATCACA GGTGTCACAT GGCGCGAGAG 120
 CTGAATTGGA TTCACCGCTT TGCTATCAGT GGGTWAGAGG CGTTCACCTG GCTGTTCTGA 180
 ATTTGAACCT CTGGAGCTAT WCGAGGGGTT ATGAGCAAGT CCAAGTTGCC GCGTGAAGAG 240
 CTGATCCTGG TAATACTCGG TGTAATCCAC GCTTTTCTGC CAGCAAAAAG CTGGCGAGTT 300
 TCGAATCTTT CCTTTATCGG CGACGTCCGT GCGTACATGG CGTTCATGG TATTTGCTGA 360
 TGTAACCTGT GGGAGAAGTC GTAGGGAATG TCTAGATAAG GTTGACCTG AAAAGCTATT 420
 ACGTTGCAAT AGCTGGGGTT GAGAATGGTG TACTTGGGCA CAGCAACCTG CTGGGCTGCA 480
 TCTGGGTGAG CTATTAAAAA TCTCGGCCAC CGAATAGAAG AGCATCTTTG GGTGAGCCCG 540
 ATTCAGTTCC ATGAGATCAA CAAAGGATAA AATCCGGAGG TTATCAAGGG AGAATTTGTT 600
 ATCATAAAG AGCCAATCAT CACTGCAGTT GGCTATATTT GGATTATTGT GATATTGCTT 660
 CACAGCAGTG TTTATCCGGT CTTTTTGGCA GTCATATACC ACAATGATT GT 712

(2) INFORMATION FOR SEQ ID NO:824:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 649 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1523UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:824:

20	GATGACAGA ATGAGCAGAG CCATTCTGAG AAAGCAAACA CGGCCCATTG CGGTTCCTGGG	60
	ATCCCTGCCA CAGAGCGAAA TGGGCCCAGA AGGTTTGTAC TCGCGATCA AGGATCATCT	120
25	GGCCTTAGCG CCATGCGACG TAGTAAAAGG ATGCCATGGA TGCTGGTCGG AAATGCGGTG	180
	CGACTGGGCG AAGACATGGA TTTTATCAAC ACCAGCTCCA AGATATTCTG CGCAACACAC	240
30	ACTTCGGAGA CGAATTGGCG AATGAACATG GGTGAGAACA GTACATTATC CCAITCTCTG	300
	ATGAACGCAA ATATTATAGG CTCAGAGTCA AGCAGGCCA TTAGCAATCC ACCTATGCCA	360
35	TCTGAACTG AGGAACGTTA CAAAAGTGTT TTACAGAGAC TCGGTAAGCA TGTCCCTGGG	420
	GGTAGAGGCC TATCTCAGCT TTATAATGAG TTTTGGAGG ACGAGGCCAT CCTCTACGGC	480
40	TTAGGTGGTG GAAGTGAATA TGTGAAGCA TACTGCGATA GTTTGGATCA AACAAAAAC	540
	AATGTGAGCA TCGAGACTGC GTATGAATCT TCTTTGCTAG AGCGCGGGG CCAGCAGGTT	600
45	TTTCTGTCTT TCGCCCAAG CCCGAAGATA GAGCTACTGA GGATCATGT	649

(2) INFORMATION FOR SEQ ID NO:825:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 660 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1524RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:825:

5	GATCTTTTGA AACAAAGTGAA TTCTCGGAAA TCGAAGTGGG GTGACTTGA CAAAATTAAG	60
10	CAGGACTTAC TGGCCAACAT GGGGACGAAA GAGACGGACT TCAACAATCG ATGCACCGAC	120
15	TATGAACGTA ATATAGTTGA ACTTCAGCGT CAACTATCAG AAAAGTGGGA CGCTACAAAC	180
20	GAACGCTCTG TCACTTCAAC CTCTGCGGAT GTACCTGGAG AAACCAAAGA ATATATTGAG	240
25	TCTCTCAAGG AAGTCAACCG TAGACTGGAA GAAGATATGT TTGCTGTTTT TCGGGGGAAC	300
30	ATAGTGTTAC TGGAGAACAT CGGCCTGCTT CTTTCTAGAG GGCCTGACAA CAAGTTACAG	360
35	ATTATACGCG TTAAAGGTTT AAGGAAAAAC ATAGATGATA GTATAATAAA GGACAGCAGC	420
40	CCTGTAATAA ATTACATAT GGTGAAGAGC ACAGTTTTCC AGGATGTGAA GAACTTATTT	480
45	GACGAGCTTC AACTGAGCCA AGGTGTTAAC GACCAACTOC ATTTTGTITAG TGAGCTGGAA	540
50	CGCTTTTATG AAGAGGATCT ATTTCCAAC TCCGTGATCA AGAGGTTAC CGATGTAGAG	600
55	AACCTGGCTA AGAGCTCAGA AAGGAAAATA AGGCTAAAAA AAGCGTATTG AAAGACACCA	660

(2) INFORMATION FOR SEQ ID NO:826:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 671 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1524UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:826:

10 GATCTATCGA AAGTGTGAAG CTCTAGACA AGTTCGTCCA TCCAAAACC GGGAGAACCT 60
 CTTTGTGCTA CCGTATCAAC TACCACTCCA TGCACAGGAC TGTACCAAT GCGAGGTCA 120
 15 ATGTCTTACA AGAGCAGGTC AGTCGGGAAC TAGTCAGGCT TTACAAGTT CAATTGAGAT 180
 AGCCCAATCA GCGCAGACT AATAAACTTG TATATACAGC TTTGCGGACA TCGCACCAT 240
 20 GTACGTATA GTATGATATC TGCTTACTCA TATCGCACT GAATGCTAGC AGACTTGGAG 300
 AAATGCTTA ATAAGCAGCA TATCCGATAA CTAGTGCTA AAGCCAAGTT CTTGGATCTT 360
 25 CACAGCTAAC CGTTTTCTT TGCTCTGAT GCGAGCTACA AGAATAGCA TCTTTTATGG 420
 ATCTGAAACC GGTACTGCAC AGGATTTGCG TAATATACTG TCCACCAAC TAGTCTGTTT 480
 30 TCATTACAAG CATAAGGTGT GCTCTATTGG AGAATATAGT GCCAGAATA TCTCGCATG 540
 TCAGTACCTA TTGTCAATT GCTCCACCAC CGGCAGGGT GCGTGGGC AAAATGGGG 600
 35 GCAGTCTCG CAGGCAAAG TGGAAGGTAC ACCATGGAGT GTGCTCAAAA GAAGCTCTCT 660
 CCCACCAACT C 671

40

(2) INFORMATION FOR SEQ ID NO:827:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1525RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:827:

5 GATCTTCTCT CGCTGGAACT GGTGATGCGT CCAAATTTT AACTTAACAA TTTTTCACCT 60
 TGACCTCGCC AAGCATCTAT ATCACGTGAT TCCATCTGAC CAACCTCATC CCAAATGCAG 120
 10 GCCATTGGCT GCTGCATTAA CGGTCTCAGT GCGCGGCTAG AGAACTAGCG TTAOGCTTTG 180
 GGGTTTACTA GCAAGTGGCC GTGCCGTGGG ATTGCAATG TGGGCGGCA CTTATCCAC 240
 15 GCGACACAGA AGTGGGTATT TCGCTTGT TACATAGATG TCAAAAACA GTACGGCAA 300
 AGCACCAGC AAGCTTCAGC AAGACTCAGG GAGGTGTTAG AGGCGATAAT CCAATCTGTG 360
 20 CTGAATGGAG CAGCGACGG GACCAAAGTG GATATTTGCA GCGAAAGTG AGACGATGGC 420
 AGCGCAAGAG GGCAATGGAG TAAACGGGA CCTGGACGGC GGCATGCAGA AGACGTTCAA 480
 25 CCGGTCAAG CCGCTGGACT TCAACGTGAA TTGGGGGT TACCGGGCA AGCGGGCT 540
 CCGGAGACC CTGAACTGGC GCGCGCGGG GCAAAGCTC AGGTGGAG GAGGACAG 600
 30 ATAGCGAAGC GAGCGGAGC TCCAGCGGG GCGGGGAG TGCAGACAG TCTAGTCTGG 660
 AGCCCCCGAA GGTGGACGG TCGTTGACGC CTGGGGCT GAAGTCGTG CC 712

(2) INFORMATION FOR SEQ ID NO:828:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1525UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:828:

5	GATCATCGCG ATTTTGGGTG GCGTTGATGA GAAAGGCCCT CACTTATACA TGCTTGAACC	60
	AAGTGGCGCT TACTGGGGTT ATAGAGGAGC CGCTGCCCGA AAGGGCAGAC MAGCCGCTAA	120
10	AGCGGAGCTG GAGAACTGA TTGGGAACGA TAAGTCAGAG CTGTCAGCTA GGGATGCAGT	180
	GAAAGAAGCG GCTCGGATCA TCTACGTGGC CCATGAGGAT AATAAGGAGA AAGAATTGCA	240
15	AATGAGCTG AGCTGGTGCT CCGCTTCGGA GACGGATGGC TTGCACAAGG AGGTACCAAA	300
	AGAGCTATTT GATGCAGCGA TTGAGTTTGC GAAGAAGGAG ACCGGTCAGG AGAGTGATGA	360
20	TGATTCAAGC GATGACAAAG CATCTGGAGG TGAAGAGTCC TCAACAAAGA AGGATGCTGA	420
	CGGTGATGTC CAGCTTTCAT GATAACAGCC CGGCATTATG TGGAGGTTCA TTTCATGACA	480
25	ATTGACGGAT GTTACTAAGT GTATATTAAAG TTAATCCACC TATATAAATT AATAACATGC	540
	AAAGCAATTT AGAATTTGTC GGAAAGCAGG TTAAAGCATG TCTACTCTCC TTAATCTTTC	600
30	GCGAAGCTGT ACATTTTCTT CTCAAGTGAA CGAATTCCTAT CCACCGGCTG CGTCTGATTC	660
	TAATTTCTTA CGTTCCGGTT CTGTGTACCA TTTCGGCGTC AGC	703

(2) INFORMATION FOR SEQ ID NO:829:

(i) SEQUENCE CHARACTERISTICS:

40	(A) LENGTH: 725 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50	(A) ORGANISM: PAG1526RP
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55	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:829:
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GATCTGGCCG CGACCTTGAG AGGCGTCTGT ACCTTCTTTC AGCACAAC TA TTGTGGGAGC 60

5 TTGGTTTCCA AAGTTCATCC TGAGCTGGT GGTGCTCAG ATATGGTGGG TGATGGCCTC 120

GTCACGGTCT GTCAGCTTCC TGTACCGACG ATGACGGCAG TTTTGGCCAC TAGGCCATTT 180

10 TTTTCTTTCAG CTCTAAGATG GCAGACGGCA AGGAGAATGC TCCAGGACAC CGGATAGAGC 240

TCCAATCTCA GCAAAACATC GCTACTGGC CCATTCTCTC TGCTGCATAA CACTTCTATG 300

15 GCTTAGTTTG TGCACTGGT CGGCGCTTCA CATTGTATCT CGTGAATTGC GTACCGGTAC 360

TATATTACGG TTGTGTGGCC GAGCGTCTA AGGCGCTGA TTCAAGTGTA TGCTTACAGC 420

20 TGTTCACAGC TGAACACTCA GGTATCGTAA GATCAGGAG TTGGAATCTC CTCGCAACCA 480

ATATTTTTCG GGGCGTTTTT GGGCGCCAG CGAACTGAA CCGCACATA TTTCTGGTA 540

25 CCGTTGGAGG TAACTGTTG GAATCCGACA GTGGGTACC GAAACCATC CAGCTCTTA 600

TTACTAAGCT GGATCGTCA CTGCAAGCG TGATATTGGA ATCTCCCCA CGTATTATTA 660

30 CTAAGCCGC ATCTTCCCG CCATGAGGAG GTACCGAAA ACCAATCCC AATTGCAAT 720

ACTAA 725

(2) INFORMATION FOR SEQ ID NO:830:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1526UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:830:

EP 0 866 129 A2

GATGTCACC AGGTCCCGG TCTTCGGGA CGTCTTGCCA TGGCTGGCG ACAGTCTGTC 60

5 GATCTTCACG TTACCTTCGA TTACCTCCGA CATGCTCGTT GCTGCTCCCG TGGCTGCCCG 120

AGAGTGATCA AGTGGGTGTT ATTAAGGCCC CCAACGCCAC CCGCTGGCC GGGTAACAG 180

10 TCCCCCGCG CTCGCGCGG TGGGCTGTG CGCCCGGCC GCCCCATCA CCGGCACCG 240

GGCCGTGCA CCGGTGCGC GCACCTTGCG CCGCCCGCG CCGCCACTGC CCGAAGCGT 300

15 AAACCTAGTA CGAACCGCC CAGCGCCCGT CATAGCATAC GGAGCCAGA CCGGGTAAG 360

CCGTAGCCCA GTCGGGAATG CCGGCACGAT AACTCTTTAG GCAGTACT ATTTAAGC 420

20 GTACAGGCGC GCAGCCATC GTGCAGCTG CAGTAGCAAG CTGAGACAG CTGGCAAGT 480

CTAGACCTGG GACACAGCC GCAACCTAGA GCGCGCGTG GCGCGAGGC GTCAGACAT 540

25 TTGGTGCGA GGGCGGTGG CAGCAGGACA AAGAGCCCG AGAGAAGCA ATGCMCACT 600

AAACGGGAG GAAGGCGAG GGATTCTTT TTGGCTTCT GTGCGAGTG GAAATGTAT 660

30 AAATAATGG AGCGCGGCT GTCTTGCG GCTGAGACTG T 701

(2) INFORMATION FOR SEQ ID NO:831:

35 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

40 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1527RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:831:

55 GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GCCCCTTTTC 60

CAATATTTTG AGCGTCGTGT CATAGCTCGG AAGACGCAGC AGAAGCCCCC CCAGTAGTGT 120
 5 CTGTTCATGT TCGCTCATGA AAGGTGTCTC TATCAAATCT AGCTCCATCA TCGCAGAGTA 180
 GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCCGCAAC TTCTGCAGGA TTACAGTAAA 240
 10 ATAATGGTAG AACCGCGGAC TCACAGAAGC GACGACCGCT CGAAATGAAG TCGGCCCGTA 300
 GAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TCGGAAAGTC TGTTCACGGG 360
 15 GGACACCGTG CCCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420
 CCGCGCGAGC TCAGTCTCAA GCTGTGTGAT CCGTGCAGC AGCTCCACAT TGGCGGTGGA 480
 20 GCTGAACAGC TCCCGTGAGT TCAAGTCGTG CGTAAACTCA GACAGGTACA CACACTGGGG 540
 CAGGCCCTTC CCAATACATG TATAGCACTT CGGCCGCGCC TTGTTGCACT TGACCGCGCC 600
 25 CTTGGGGCAG AACACGCAAG ACTTGCTGAC CTTCCGCGTG GTTTTCACAA TCTTGCCATC 660
 GGACTCTGCC ATCCCGCCAG CTTCAAGCAA AATGATTAGG CTATA 705

(2) INFORMATION FOR SEQ ID NO:832:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1527UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:832:

GATCGCGGAC GTGGAGCACT GGCCCGAGAT GCGCGCGGCC ATCTCTGGTG TTCTTCGGA 60
 55 CCGCAAGGAC ACGCCATCGA CGAGCGGTAT GCAGCAGAGC GTGCACAGT CGGACCTCTT 120

CAAGGAGGCG GTGCGGACGG TGGTGCCGCG GCGGTACGGA AAGATGGCGG CCGGATCCG 180
 5 CCGCGCGAC TTGCGGACGT TTGCGCGCCT GACGATGCAG GACTCGAACT CGTTTCACGC 240
 CACCTGCGTG GACTCATTTT CCGCGATCTT CTACATGAAC GACACTTCGC GCGGATTGT 300
 10 CAAGCTGTGT CATCTGATCA ACGAGTTCTA CAACGAGACC ATCGTGGCGT ACACGTTTGA 360
 CCGGGGTCCG AACGCGGTGC TCTATTACTT GCGGAGAAC GAGGCGGGC TCTGCGGCTT 420
 15 CCTCTCTGCC GTCTTTGGCG CCAACGACGG CTGGGAGACC ACGTTCTCGA CCGAGCAGCG 480
 CGCCACCTTC GCGGCGCAGT TCGACGAGTG CGTGGCGGGC AAGCTTGCGA CCGAOCCTGA 540
 20 CGACGAGTTG CACAGAGGAG TTGCCCCGCT CATCTTCACG AAAGGTGGG CCAAGGGCCC 600
 AGGACACTAA ATCCTCGCTC ATCGACCCCG AGACGGGCTT GCGGCTGAC GCTATTCTCC 660
 25 TGCTATTTTC TGCTCTGTAT ACCCTGCCAG AACGGCTAT ATATATAGAA TATGCATT 718

(2) INFORMATION FOR SEQ ID NO:833:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1528RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:833:

GATCACTGTA TCGAATTTGA CACCCAAGGA AGCCAAAACA TCGTGGGGG ATCCCGACAA 60
 TGTGGAACAT ATGATATCGC TTTCTGCAAG GATGCGTGCC TGAGCTTTCC TCTTATTCAA 120
 55 TTCTCTATTT CTATAATTCA CCGCATTCCT TTCCCTCAGC TCATCGGCT GCTTACCTAG 180

CTCATTAATC TTCTTGCTCA AGTCCCTCAA CTTTAGCTGT ATCTTAGATA TCTCATCAGT 240
 5 TGAGAGTTTA CTAGTGGGCG AACCATCCTC TTTATTTCATC ATATCCCTGA GCTTTCTCCT 300
 CTCGCTACG GCGTCATGAA AACTCTGATC TAAGTTCGGA TCGTGATTTA TTTCGTACGA 360
 10 CTGATTCAAA GCTCGCTTGT CAACCAGCTC TTCCAACGTT AGGTCTCTGA TAGCAGOGTT 420
 AACTGCATCT GATTTACCAA TCCGCACTAA TTTTGGTTTG AACAACTTGC CGTCAGTATC 480
 15 GACCAAACCT TCTCTCAGAC GCAACACAAG CTGTCACACG GCTGCATTAC TGGGTGCACA 540
 TATCAGAACT TTTTGTCTCT GTAGTAACAT CTCAGTAGAG GTAGCGTTTG ATTCTGTGGG 600
 20 ATTCTGATA ACATTGTATG GTAGTGCTTT TCGGTAGTT AGGAAAAAGC CGACGACACC 660
 AAGAATAGTC TTAGTCTTAC CAGTACCAGG GGGTCCCTGG A 701

(2) INFORMATION FOR SEQ ID NO:834:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1528UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:834:

GATCCAGCAT TTGCGGTAA ATCGGCGTAT TCCGCACGG AAGGTGGGAA GCTTCAACGA 60
 50 GTTGATCTGC ATGTGGGGG CGCAGATGGT TCTTCCACTG CTGCGAGACT TTGATGCGTG 120
 CAAAGTATCA GATGCTGTTA TTCTGGCGAT GTATGAGATA CTGCTGAATC CGCAGATGCT 180
 55 CCGGTGCTCG CCGGAACTCA AGTACTACTA TGATCTAGCA TTCAAGGGCA TGTATGAGAC 240

GGACATGAG CTTTTAGACC ACACAAAAGA ACAAGGTATC AATCTGCTCG TACCTGGAGT 300
 5 CGTATATTC AAGATGTACG GCTGCCCTGA ACAGAGTTCT TGGCAACAC GTCTCTTGG 360
 GCACTTCTTC GAGAACGAAT ACTCAATCAC AAATGAAAAC GTGACAACCG AACTGCTTGA 420
 10 CGAAATCACC TATCATTTTA TTCAGTTACA GTTGAGCAGG AGCAACAGCT CGTATTGAG 480
 CATGATTGGA CTATTCTGGA GCAAGATGTG CCGTTCTTT GCGCTGATGC ATGTTGATGT 540
 15 CTTAAAGGAG TACTTTATTG AGCTCAAGAA TATTAAAGTCA TTGGGTCCA CGACTAATGT 600
 TCATATGAA TCTGTTTCA AGGTATTTTA TCACCATCTC ATAATGCAGG TAAGATCAAA 660
 20 ACCGTTGGAT ATTCTGCTCC GTATTTTGAA ATTATCCTGG AAAAAGTAGG G 711

(2) INFORMATION FOR SEQ ID NO:835:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1529RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:835:

GATCAAAAAG AAGCGATTG CTATGGCGAC GGTGACTGCT GCTACCGCG TCTACGCTCT 60
 45 ATATCCTTCC TCTCGATGT TGGTTGACAG CTCGCGTTG ATCAAGCTAG AAGGCACCAT 120
 TTCTCTCAGT AGCAAAGTG CTAATAATGA TACTGATGTT TTCATATTAC CAGAAAACA 180
 TTCTGCTGTT CCGGCTACA ACACAATCAT TCGTTTCTC GTACCGCCA TGAATGCCTT 240
 55 CAGGCTTTAT GGCAGGCCGA AAACACTATC GCGAGCAAG GATGACAAA ACTCACTCT 300

GTTETAGTCTA CCAGCGCTTC CACATGTGCA CTACTTGCTG GTCTAGGATT TGCTTCCATT 360
 5 AGTGAATTCA GCCTTGGCT CATGGACGAC GCAGGAGTGG CGGAGACAAA TCAAGGCTCT 420
 ATTACAACCG AGGGTAGCGG CTGGCTATCA GGGATGTGGT TCAAGCTCCG GTCTATCCGG 480
 10 CGCTCTGTCC TCCCTGCTC TGGGTCCATT GAGTCTACT TCTTTGTCAT CGCCGCATTT 540
 TGCTCCGTCC ATTGGTTTT CGCTACTGA GTCCAACTAC ACTTTTATGT CAAGTCACTC 600
 15 AAGAATAACT TCACTACATG ATAATATCCA GAGACCATAT TGAATACCGT GGCCAGCACA 660
 TCCGATAATA CWTGCACCC AAACAATATG CTATCTCCCG CAGGTCTTGC CCTGATGCA 720
 20 TT 722

(2) INFORMATION FOR SEQ ID NO:836:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1529UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:836:

45 GATCCCGCTC AATGCCAAGT AGAATGTTTC TCGGGGGAGC CCATACAGTA CCGCTCCTC 60
 CTCATCCCCG CTCTCTGCT CCACGTCTC TGTGCAACA TCTAGCAGTT TCCGATAAC 120
 50 ACTGGGGATG GTCATGCTCA CGCTCCGGA TATCACGATC AGCACCAGG CGCATACTAG 180
 AGACTTGAGC TCAGGCGCG CCAATTGGAA CAGTCTAGC ACATCCTTGG CACCTGATGC 240
 55 GTTGCCCGTC GCGTGCACA GCTCGAGTCT TTCTTGGTGG GGTTCCTCTT CGTACTTGC 300

CCGAGGGTTT GCTGTGAGT TTAGCCTCGT TTGAATTCCT GTGATCGC TGAACGAAAA 360
 5 GCGGGTGCGT TGATGTAGAT GATTGAACGG CGGCCATGCG TGCATCCCAA TAACAGGCCT 420
 CGGCACCTGC TTAACAGCTA GCGATAGCCA CATATATGTT CTCTCGAGG TCATATTCCC 480
 10 AGTTTCTTC TAACCTCACC AGCCTGTAG GCTCTCGAG TTGCTGTAA GTGGTGAATT 540
 TCGCATCGG ACTCATTTTT CATGGAGAAT AAATAATGT ATTACAAAAT AGAGATGCAT 600
 15 GGCAGCTAG TGAGGCCAG CTAATATACA GCTCTGGAG CTTTCAGTT GTAGGCACC 660
 GGTTCGCGC TCATGTGAC TACAACATTT T 691

(2) INFORMATION FOR SEQ ID NO:837:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1530RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:837:

GATCCCTCTG CTACAAACAC ATACCTAGAT TTTCATATT TTACTGAA TACATATAAT 60
 ATATCATTTA ACTGTCTCA TTCAATGAGC GTGCTCAAG TTCTGTCTG CTCAACTTGT 120
 45 TTTTCCACTT GTCAGCTCT TCGCCCCCA GTACGTCAC CACATGCAG GCTAGCTTCC 180
 TCATTCCTTT GCTCTCAGC GTATCGTTGA TTGTCTGGC ACGGCCACA GTTTCCTCAC 240
 50 TCACTACCAG GCTTCGATA CCAGGTCGC TACCCGTGG CCCGCACAG TCATGTAACG 300
 CAAATATTTT GATTTCAGC CCGGTTTCA GCTGTGAAG GAAGCTGCAC ACGTTATGCG 360
 55

ATCGTTCGTC GAAGGACTGA AGCTGCTCCC TGTATTTCCTT GTTCGCGAGC AGTTCTTCAT 420
 5 CTGTAATCCC CACGATCAGC CCGGACGCGAG TCACGAGGCG GGCAACACTG AGCAATATTT 480
 TATGTCCGTC GTGTAAGTGG TCGAAAGTGC CTCCGAGGCG GCTAACAGCG TACTTGTCCTC 540
 10 TACCGCCACT CTGACCGGG CCGGACGCGG CCATCGGCGG ACTATCAAAC AGCTCTATCT 600
 GCGTGTGCGG GAACGCATCC TCGAGCAGGC GATCGCTCAG GAATACAACG TCCCACTTCA 660
 15 TTGGGCTGTA CGCTTCCATA CTGACGTTGA ACAAACATT TATCGGGGTC GTGT 714

(2) INFORMATION FOR SEQ ID NO:838:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 25 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1530UP

35
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:838:

40 GATCCTGGGA CGACATCGAC ACCATTTCTA TCGGTAAAGA ACTTGTGAAC AACGGCCAGG 60
 CGACCGTGGA CCAGATGGCT GGTACATGA AACTGGGCG CAAGTGCCTC GCTGAGGCG 120
 45 GCTACAAGGG CCAGTTGTT TCGTGGACA CTTTCATGCG TGTAATCAAC AACCTGGTC 180
 TATGTGACCT ATCAGACTAC ATGGCTGTCA ACGCCACCC ATACTTCGAC TTCCACACTT 240
 50 CTGCTGCTAT GGCCGGCCCT TGGTTTTTC ACCAGATCCA GAGAGTCTGG AGCGCCTGCA 300
 ACGGTAACAA GAAAGTTGTC ATCACCAGAG CCGGCTGGCC TACTCAGGT CAGACTTACG 360
 55 GCAAGGCCAT TCCATCCAAA GCCAACCAGA AGATGGCCTT GGAATCTATC AAGGOCACCT 420

GTGGTGATAG CGCTATCCTA TTTACTGCTT TCGACGACTA CTGGAAGCCA GATGGGCGCTT 480
 5 ACGGTGTGGA GAAGTTCTGG GGTATGCTAT AAGTTGCCGT GTGCTTCTTT ATGACCTGTC 540
 TCTTTATTTT GCTCGGAACC CTTACATGCA GATGGGGGT GCGGTGCAT GGGCTGCAG 600
 10 CCTCCGGGCC TGCAAGTTTC TACATGCCC TACTTTAGCT GCCACGGAC TTITGAATTT 660
 CTTTGGCAG TGGTACTGCT GGCATCCTTC TCATAGAACA CAGTGTCCC ACAGG 716

(2) INFORMATION FOR SEQ ID NO:839:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1531RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:839:

GATCTGCATC CTCGTGATGG AAAATACGGC CATGCAGCTA ATTTTGGAAAT GGTTCCTGCA 60
 40 TACCGTAAGA GAGATGGCTC CAAATCATAC CCAGTTACTA TCCTTGAGAC TAACTTTTCA 120
 AAGCGACAC CTACCAGACC TGCTCTTCTG AAGTTGGGAG AACTCACAAC GTTCTTTCAT 180
 45 GAGTTAGGCC ACGGCATACA CGATTGGTG GGTTCGAATG ACTTGGAGTC GCTCAACGGG 240
 CCTGGTCTG TCCCATGGGA TTTCGTGAG GCGCCCTCTC AGATGCTGGA ATACTGGAGC 300
 50 GCACGGCGTG ACGTTTAAAC TATGTATCC AAGCACTACG AGACAGGTGA GAAAATCCCG 360
 AAGTCGCTGC TGGATGCTG GTTTAGTGTT GCGGGCTCA ATTCAAGATT GGCCAACTTG 420
 55 GGCCAACTGA AACTTGGCTT GTTCGACATG TATGTGACA CCGCGATTA CAAAGGAGCG 480

GAGGTACGGA AATTATGGAA TGATCTCACC AGAGAGATCG GGCTCATGAA CTTAAAAAAC 540
 TACTACTAGCA CCGGCTATGA CTCCTTTTGGG CATATTATGG CTGGATATGC TGCTGGCTAC 600
 TATGGCTACC TTTGGTCCCA GGTFTTTTGCT GCAGATATGT ACGACACAAA GTTCAAGCCC 660
 AACCCATTCA ATGCTACGGT GGGTGTGGAA TACAGGGACA CTATTTTAGC TACCGGTGGA 720
 CTT 723

(2) INFORMATION FOR SEQ ID NO:840:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 692 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1531UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:840:

GATCCAATCC TGGAGGCGGG TTAAAGTGCT CCTCAATGCA GGCAGCCGG CACTGGAGTA 60
 TGGCAGCGAA ATCGACTCT GGAGGAGGCG CGTGGTTGGG AACTGGATCG TCACCTCGC 120
 GCAGAAAGGC CGTTTGAAG GGCAGGCCA GGACCGGAAT GAGCATTAAAT AAAGAGGTAA 180
 CGTGCATGCT GTGAAGAGTT TCACTTTATG CGTTGCATTC CTCCCCCOCT GAAGACGAAA 240
 ACACGGCGCA CATCGCTAT ATATACCCCTT CGTGCTCTACT ATTGTGCGCT GCGCGCTCTC 300
 ATGTCAGTTT TTACTTTTGG ACCCGGGGAA CGGACATCT GCCACAACGC ACCAAGGCTC 360
 AGTGACCAGC TCTATGCCGC TTGCTCTGCC AATAACCAGC CCCTACTAG CCGAGCAATT 420
 TGCCCTAGTC CACCAGATAT TCATTGTGTA TCGTGTCTCG CCAGCCTCGG GCTGGGACAT 480

AAAGATOGGA AGCTCCTGTG CAAACCTGCA CAGCGCGCCT TCGAGAATAC TCGCAGGGA 540
 5 CCCCCCTCC CATTAGTCTT TGGCAGTTT TTGCTTTGTC CCGCGATAAT GTATCTAAAT 600
 ACAGAATATC GATTACGGCG AATAGGCAAG TTTTGTGGTC TGACATGCGG AGTGTCAATT 660
 10 CATGATTACA TAATGTGTG TGCCATATCT GT 692

(2) INFORMATION FOR SEQ ID NO:841:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1532RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:841:

GATCTKTGA AAGAGTAAC AGGATCAAGC CTGCGGTATA GCCAGCGAAA TATGCATATG 60
 35 AAGTCTTCT GCGTGGGCTG TTTCAATGAC TTCAGTGATA TCGCATGCCC AGTTTCTATG 120
 TCAAACCTGC GCGACTGCAG ATAATCAAAT ATCTCCTGCT GCAACACTGC CTGGTAGTTT 180
 40 TTGTCAOGGA GAGGTGOGG GTGCGGGTA CTCTGCAGCG CACGTAAGC TGACCGAACC 240
 CCGCCGGGAA CAATCGAAGG CCGCTGOGAA GATCGCAGAC TCCGCGGAG AGACTTTTGC 300
 45 AACTCGGCA CAGGTCTTGA AAGAGAGCTC CGGCGTTCC GTGCCAGACT CTGTGTTATC 360
 ATGTCCGTAA GAGCAGGTT CGTGCCAGGT ACGCCCTTCT TGTTCGTGTT TCCACCAAT 420
 50 GATCGAATTT GAGAGTGAA CCTCTGOGGA TTCAAGCTAT TGAGCACACC ATTGCACCA 480
 CTTGAGCCCC TTGCTCTGC CATCCCTAAT CGTCTATCC TACGGCGGCC TAATAAGTTA 540
 55

CTACCAGACT CTGGCCCTCA TCTGGGACTG ATGTTATCGT CTGCAGCCAG ATCCTGTTTG 600
 5 TGACCCGATC GAAATCATCG AGTACGAATA ACCACGTGAC CATTATTCAC GTGATGAATT 660
 TGGCGGTCCC TGTTGCCGAC TCTTACTCCA GGTTAACCAT GACTAGATGG GCATACCTCA 720
 10 GA 722

(2) INFORMATION FOR SEQ ID NO:842:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 619 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1532UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:842:

GATCATCTGA ACGCTCATGA ACAGTTCCGG GAACATCGTG TCACCGACTA TCACTGCTG 60
 35 GATGTCTTTC TGGCCGAAGT ACGCGCGGTC CGGAGCAACA ATGTTGACCA GCTTAGCAAC 120
 GACCGTGGCC ACACCGCGGA AGAAGCGTGG ACGGGTGCGA CCTTCAGCA TCTGCTGAC 180
 40 GCCAAGCACC GACACAAACG GCGCGGCTG CGCTCGACC TCCAGTGGGA TGC CGCGCGG 240
 GTACATTTC GCGGGAGAGG GAGCAAAGAG CACGTCCACA CGGCGCTCTT CCAGCAACGC 300
 GCGATCCGCT GCCAACGTCC TGGGATAGCG GTCAAGATCT TCGTTGGCG CAAACTGCGA 360
 45 AGGGTTTACG AAGACTGAGA CAACAGTAAA GTCTTTTTC GCGCAGATC TCCGACGAG 420
 CGTCATGTGT CCTCATGTA GGCAGCCCAT CGTTGGCACA AACCCAATCG TCTGTGCTTT 480
 50 GCAATCTACC GTCTGCTTGC GCCATTGCGA GACTTCTTGG ACCTTATTGA GCAAGTGCAT 540

GAGGGTATC GCTTTGATGG TTCAGCCTTC AAGTTTGTCR GTTGTCATCT CACAGATTAA 600

5 GGAAGCTTGC GCACACTAT 619

(2) INFORMATION FOR SEQ ID NO:843:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 564 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1533RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:843:

30 GATCAGAAC TOCATCATTA CAAAGTCCAT CGGTGCGATA CGAAAACAAA ATGCACAGCC 60

GCTACCGACC TTCGAAACC TCGAGAAGAT CAACCAGCCG CCAAAGAAGC CTGACCATGC 120

35 GTGGGAGTAC ATAAAAATCGT GAATTATTGG GGTGTATGT ACTATATACT ATGCTCTGC 180

CGCCCAATGA TGGTTACGCC TCTTGCCTG GCATTCTGGG TGACGAGGTT GTCTCCGTAC 240

40 ACCTCTACTA TTTCAGGTT GGGGCGACAT TCGCTGATAT GGGCGAGCAA TTGTCTGTC 300

AACGAGCGGA CGAACCTTAC ATTCAAGTTG TCGAAGTTG GACAGGACAT TAGCTGGAAC 360

45 CCAGCTGCCG TCAGGTTCTT GGCTGAGTTC AAGTTTAGCT CTTTGAGGAA TTGGAACAT 420

GGATCAACC ATATCTCCGC AATTGATGCA TCATCCAGCT GATGGCAGCG CCTCAAGTTG 480

50 AGGTAGTGAA GTCCGGGAAG CTGGACCGAA GAGAAAAATG TAATGAATCC ATCGGACGTA 540

ACCTGGTCCA ATTCTCTAG GGAT 564

55 (2) INFORMATION FOR SEQ ID NO:844:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1533UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:844:

GATCCGGAGA CAGACGTGTA TGTGAGTTCT ACCGCTGGGC GCTGAAACGC ACGTGGTTAG 60
CGCACATCCT GTGTGCTTGC ACCGGCCCCAG AGCAACCAAG TATTCTATA TTGTTGAAAA 120
CTGCGGTAAT AACCATGTAG AAGATTCCGC GCGGAATAC CCGTTTACC CCAATATGTC 180
CGTCATGIGA GCTATTGGAT CGAAGAGTTT TTAATGACGT ATCCCTATC ATAAAGCGT 240
GCTGGATTAT TGGAGCATGC ATCTGGTTC GCTGGGGCGT GCCAATATA TGGTCAAGA 300
AGAACTATC GTACCAACCC CGTCTGTCT GACCTGTGTC CTCTTAATG GCATGACTAA 360
TATGGGGTAT CCTTAAACC TTTAAGATGT TACCTCCGT CTCCAGGCG GTTGTCTAGT 420
TTACAAGAGT AAATACCACC TTGCCCTGG GAGGGTTCTT ACTTTACAGT AGGAAAGAT 480
CGATACTACT GGTGGGGGA TTGGTATAT TTGAAAGAT GGATGAATG GAGGGCTCT 540
TATTGACAGC AAAGCCACTC CGACAGAATA CCCACACCTT GGATTGGAA GCTGGGATC 600
GACAGAACAT GGTACGTAA TGAATTGTC CTGTGGGCC GCCCTCCGG TTAATCAAGA 660
AGAACAACCG CGGGCAGC AGGGAATAT TGAATTCAGT GCTGCCAAGC CTAATTTATG 720

(2) INFORMATION FOR SEQ ID NO:845:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 727 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1534RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:845:

GATCCACATT GGAATATGGG TATGGGACTT GATGGTTGAA CGCTTOGCTT CAACCACTGC 60
AACATTGGCA AACCGTTTGA AGTCTGGAT GATTTTCTCC TTCTGGATCG CAGTCAAGAT 120
GTGGCCGAAT CGTTTTCGT TGTATAGGOC TTGCTCATCC TGTGCTTCAT CCTCATCAGA 180
CGCTAATGGA ACGTCTGGCA CAATCTCGAC GCCATCGCAG GATGCGATAC TCAAGGTATT 240
GAGCATGTTT AAGGCATGTT CCTTGTCTAC TTAAACCCCT GCATCAACTT CCTCTCTGTT 300
TTTCCATAGG CGAGGGACAT CGTTTGTATC GTAACGAAAC TTACTTTCAA AGCGTTCTCT 360
CAGTATAGAA ACCACATTGT CTTCCTTCAA ATACTGGTGG ATAATATCAT ACAGAAATAGT 420
CCATGCATTT GACCGATCT TCAAGTATAA AGCATAATTG TCCTCCTCGA TGAGGTGAG 480
CTGGAAGTCG TAAGCGGTAC TTTCATCGGT GACATCCCTT AAATTGGGTA GTTTATACTT 540
TAGAACTGAA CGGCGGAAAA CATCATCAAA GTGGTCCATA ACAAGTTGCC AGACGTTATC 600
CTGTGGATGG GAGAGTAAGT GGACAATATC GTCTCTAGTA TGTGTGAATT GGTACTTTT 660
CGCCCTCAAT ATAATAGCTT TCATCTCCTT ACCACGCTCT CTTCGCGTA GTTCACTATC 720
TTCTCCA 727

(2) INFORMATION FOR SEQ ID NO:846:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 682 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1534UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:846:

GATCAGGGTG GACTTGATCA TGGTGTGTCT CGTGCGGCGG TGTGGTAGGC GGGGACGGT 60
 GCTGCTGTCC TTGTGTGGGC CCGCGGCGGC GGCGATCAA GATCGCGCAC CACGGTGGC 120
 GCGGGGGGG CTCCAAGACA CACGCGCACA GCAGCGCGG CGTGCGGGC AATGCAGGC 180
 GCACAGCTAT COTGGGGCT CGTACCGGTG GCTGCCCTTG GGCGATTGC GCTGTCAGC 240
 GGTCAAGTGA CCGGAGATAT GTTGCAAACC AAGCCATCGA TGGCATAGG AAGCATTAC 300
 CAGCGGATTC GAAAACCTC ACAACCGCC ATCTGCTGGT ACGACCAAG CAAGTGGCTG 360
 GCACTGGTTG CACAGTGGTA AGGTCTTGT TCAAAATAC TGTGCCAGG CCGCTCTCAA 420
 AACCTGTCAA GTGCAGAGC ACTGACAGTC CGTCAAGATG CGACATTACA ATGCTCTGGA 480
 AGCTCTCAG TAGGTCTCG CCGCGTGTCT AGACAGTCAG GGCAGGCTT CATGACAAA 540
 GACGGCAAG GATGTGCAA TTGTTGCA CAGTCCACTC TAGGGTCGGA CCGGAAAAAC 600
 AGCGCTACTC TCGTTGACT GGGCGAGAC TGGTAGCGG CTGCGTGGC TCAATGAGGA 660
 CAGACCAAGG TGATCATGAT AC 682

(2) INFORMATION FOR SEQ ID NO:847:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 663 base pairs

EP 0 866 129 A2

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1535RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:847:

GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GGGGCTTTTC	60
CAATATTTTG AGCGTCGTTT CATAGCTGGG AAGAGCGAGC AGAAGCCCCC CCAGTAGTGT	120
CTGTTCAATG TCGTCATGA AAGGIGTCTC TATCAAATCT AGCTCCATCA TGGCAGAGTA	180
GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCCGCAAC TTCGTCAGGA TTACAGTAAA	240
ATAATGGTAG AACCGCGGAC TCACAGAAGC GACGACCGCT CGAAATGAAG TGGGCCGTA	300
GAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TGGAAAGTC TGTTCACGGG	360
GGACACCGTG CCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT	420
CCGCGCGAGC TCAGTCTCAA GCTGGTCGAT CCGTGCAGC AGCTCCACAT TGGGGTUGA	480
GCTGAACAGC TCCCGTGAGT TCAGTCTGTG CGTAAACTCA GACAGGTACA CACACTCGGG	540
CAGGCCCTTC CCAATACATG TAGAGCACTT CGGCCGGGOC TTGTTGCACT TGACGGGCGG	600
CTTGGGGCAG AACACGCACG ACTTGCTGAC CTTCGGCCTG GTTTTCACAA TCTTGCCATC	660
GGA	663

(2) INFORMATION FOR SEQ ID NO:848:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 649 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1535UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:848:

15	GATCGCGGAC GTGGAGCACT GGCCGGAGAT GCGCGCGGCC ATCTGGTGG TTCTGCGGA	60
	CCGCAAGGAC ACCCCATCGA CGAGCGGTAT GCAGCAGACG GTGCACAGT CCGACCTCTT	120
20	CAAGGAGCGC GTCCGACCG TGGTGCCCGG GCGGTACGGA GAGATGGGG CCGCGATCCG	180
	CGCGCGGAC TTCCGACGT TTGCGCGCCT GACGATGCAG GACTCGAACT CGTTTCAGC	240
25	CACCTGCTG GACTCATTTT CCGCGATCTT CTACATGAAC GACACTTCG CCGGATTTGT	300
	CAAGCTGTGT CATCTGATCA ACGAGTTCTA CAACGAGACC ATCGTGGCGT ACACGTTTGA	360
30	CGCGGGTCCG AACGGGTGC TGTATTACTT GGCGGAGAAC GAAGCGCGC TCTGCGCTT	420
	CCTCTCTGCC GTCCTTGGG CCAACGACG CTGGGAGACC ACGTTCTCGA CCGAGCAGG	480
35	CGCCACCTTC GCGCGCAGT TGACGAGTG CGTCCGCGC AAGCTTGGG CCGACTGGAC	540
	GACGAGTTGC ACAGAGGAGT TGCCCGCTC ATCTTCACGA AGGTGGGGC AGGGCCCAAG	600
40	AACTAAATC CTCGCTCATC GACCGAGAC GGGCTTGCC CCGCTGAC	649

(2) INFORMATION FOR SEQ ID NO:849:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1536RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:849:

10

GATCATTGTG CCTGCAGCA CAAACATCCA CAGCTGTGC ATTTCAGTT GCAATCOGGA 60

GCAGCAGCTC CTTGCAGCA TTTCGAAAAG CCAGGCTCTC CCACCTCTTT CGCATGTTCT 120

15

TCTGACATTT TTGTTGTTC TAAATCGTGA TTTTGAGTGC ATGGTTCCGA GACCGCCGCA 180

GCTGACTATA GGGGGACCA AGACCCTTTA TATATTTTCG CAACCAGATA CATTAATGCG 240

20

ACGCCAAAAC ACTATCAAAA ATAAGGTATA GCTCATTTT TATTGTGACC CATGGGACAT 300

GCTGTAATCG GATTATTCTA ACTAAGCTAG TATTATGTCG GTATCCTTTT ATTAATTACA 360

25

ATCACTGCTG AGTTGGGTA TCGTCAACT GCACAGCAG CTCATCAGTG GTTTCGTTCC 420

CGCGCAGATC ACGTGCTGC GACATGGCGA CTTCATCCAC TGGCGCCAG CTAAGTGGTA 480

30

TATGACATTA TGGCGAGAG GTTAAGGCGT GAGACTOGAA CTAAATTGAG GGATCTCTTG 540

GGCTCTGCC GCGCAGGTC GAATCCTGCT GATGTGTTA TTTTTCCTT GCGCGGCTA 600

35

CGGGGGCTG TATTTGCTG TTGCTATTTA GATAAAGAG ATACTAACT ATGGGTAGAA 660

CTCGGGTAC TTCCCGTAGT AGTAGGCTGT GCCGAAACCG CCGAGGGCGG TGAGCAC 717

40

(2) INFORMATION FOR SEQ ID NO:850:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1536UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:850:

5 GATCAGCTCG GTACTGGAGA AACAAAGGCTA CTGTCCCTTG CCTTGACGAA GTTACGGGAA 60
 ATCGAAAGCA GCAGCAACAA GCAACATAGC AAGACCGCTA AATACATTCT CAAGTCATTG 120
 10 GAATAAGCTC TAAAACTACC GATACGTATA TTTACTGGGT TAACGTTTAT ATACATATAT 180
 CTAGGCGTGC GTATGGGTGT TGTACGTGTA CATCTAACCA AATAACTCCA CTATAGCTGT 240
 15 AGTACATGGC ATTCCCTTGT AAGCAACTTC AGGTTCTGGA CTACCCAATT GCTGTCCCGC 300
 ATCCAGCCT TGGGTCTGT GCGCTGTGTT GACCTCAATT TAGCGAAGAC CGACTTGTAG 360
 20 TCGCTCTCAT ACTGCTTGAA TTGCGGAATG ACGCGGTAG AGTGAAGTC AACATACAG 420
 CGCGTATCGA CTATCTGAA GAGGACATCG TCCACACGCA GGAAGAAACG ACTCAAAATC 480
 25 AGCATACACT CGTTCATCAC TCTCACCTTA ACATTCAGAA TGCTAATGCC ATTGTCCGCT 540
 AGTTCGTCTT CAAATAAAAT CATGTCTGTC TAGAAAAGAA TGGGTCCCG GCTCGAAAAG 600
 30 CTTCGCCAGA GGCAGCTCCA CGCTGTGTC TCTGACCATC GCGCTGCCAT CTATGGTGCC 660
 CTGGTAGAGC GTCGTGTACG TCCAGTCGTA CTGGTGGGAT ATGTTTAGGG 710

(2) INFORMATION FOR SEQ ID NO:851:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 737 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1537RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:851:

5	GATCTCCGTA CTTTAGGATG GCTTTATAGA GGGCACGAAT TTCCCTTTTCG CCTATAGAGT	60
	TCAGGTGTGT GGATTTGCGA CGTTTTTTTG AGCGTGAATC CTCCTTGTTCG CTTAAGCTCT	120
10	GAGCTCCATC TCCATTGACG CTATTTTTTA TCTTATTCAG AGCAACATTC CTACGATTCA	180
	TCATTTGCAG TTGTTCTGG ACATACTCTT CATCCTTCOG CTTCGTCTCT TCGTCTTTGA	240
15	GTTTGGGTAG CTCGTCCTCC GGAATGATAT CATCCCATTC CAGTCAGCT TTATAATGG	300
	TGACTTCAAA CTGTTTTAGG AATTCTCTAC CTCGAGATG AGACTCTCC AAATCTGGTG	360
20	TGGTGACGTG ATCTTCGCA TGATTCAAGA CATCATCCAA GTTCAAATCT TCAAGCTTCT	420
	TTTGATTATC ATGCGCTTTG AACATAATGC CTCACCAAA CTTGAGAATC TCAGACAGCT	480
25	CTCTGCACT AGGTTCGGCT TTGCTCTTC TGTATATTT ATTCCATCT GTAACACCTA	540
	ACGAGATGAT AGCATACTCC AAGATCATCT TTTTGGTGC TCTTTCTAAG ACTTCTTCTT	600
30	CAACGGTATT CTTAGACACA AAACGGTAAA CCATAACATG ATTCTTTTGA CCAATTCTAT	660
	GCGCGGAGC CATTGCTTGG AGATCGGCT GTGGATTCCA GTGGGAATCA AATATGATCA	720
35	CAGTGTCTGC CGTCATC	737

(2) INFORMATION FOR SEQ ID NO:852:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 716 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1537UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:852:

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5      GATCTAGACC ACCCGGGCTC GTTACCCGGA TAGGAAGTAA AAGCAGTCGG GAGCGGTCTT      60
      CTGGCAACGA CGTTTTCCTC TACACACCTC CTCGCACAGG ATCCAGCATC CTGCCGCATA      120
10     ACGTCAACGC CCGCGTTGTG ATGGTTCCCA GGTGCCACTG GCGCCAAGCG CTGCGTGAGA      180
      AACAGCAGCG CTGCACTTCG CTGCTTCGGG GAGGCTCCTG GGAGTGGTCC GGGGGTTTTC      240
15     CCACCGCTCA ACCTAGCGGG GCGTGGCTGT GCGGGGCTCT CCATGCAACT GGGGGGCTCC      300
      CATGATGGCG GGGGCTTAC CAGGGTGGTG TTTGGGCTGC CTGGCTGTGC GTGGCCACAC      360
20     GATGGCCTGC TGGAGGAGCT GAACCTGCTT CGTGGTGCA AAGGTGTGTG CGACAGCGCA      420
      CCTGCGTGCA AGCTGTGCTT GCGGGGGGCT GTGGATTGCT GCGTCCGGCG GTGCAACTGT      480
25     GGTGACAGCG CTTTGCAGGC ACGTGATGTT TGGTGCGGGG CCCAGACGTG CTCGGTGTGT      540
      CTCAGACAGC TTTTCCGGCG GCTGCGGGCG CCGCGTTGCC GCCATATGAT TGATTCCGTC      600
30     TOGATTAGTG CATGGTGGTC AGCTTCCAGA TGGCCAGGCT GTACTTGTGC TTGCCCCGGG      660
      CCGGCAGGCT CTTTGGCTGT GCCGGTGGGT CTGCTTTGTC GGGCTGGGCG CGTTCT      716

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(2) INFORMATION FOR SEQ ID NO:853:

(i) SEQUENCE CHARACTERISTICS:

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40     (A) LENGTH: 733 base pairs
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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50     (A) ORGANISM: PAG1538RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:853:

EP 0 866 129 A2

5 GATCCCTCTG CTACAAACAC ATACCTAGAT TTCTCATATT TTATACTGAA TACATATAAT 60
 ATATCATTTA ACTGTCTTCA TTTCATGAGAC GTCTGTAAAG TTCTGTGCTG CTCAACTTGT 120
 TTTTCCACTT GTCAGCCTCT TCGCCCCCA GTACGTTTAC CACATGCAAG GCTAGCTTCC 180
 10 TCATTCCTTT GCTCTCAGC GTATCGTTGA TTGTCTGGG ACGGCCACA GTTCTCTCAC 240
 TCACTACCAG GGCTTCGATA CCAGGTTCG TACCGTGGG CCGCACAG TCATGTAAG 300
 15 CAAATATTTT GATTTCAGC CCGGTTTCA GCCTGTGAAG GAAGCTGCAC ACGTTATCG 360
 ATCGTTCGTC GAAGGACTGA AGCTGCTCCC TGTATTTCTT GTTCGCGAGC AGTTCTTCAT 420
 20 CTGTAATCCC CACGATCAGC CGGGAGCGAG TCACGAGCGC GGCAACACTG AGCAATATTT 480
 TATGTCCGTC GTGTAAGTGG TCGAAAGTGC CTCCAGCGC GCTAACAGCG TACTGTCTC 540
 25 TACCGCCACT CTGACCGGC CCGGAGCGG CCATCGCCG ACTATCAAAC AGCTCTATCT 600
 GCCTGTGGG GAACGCATCC TGCAGCAGC GATCGCTCAG GAATACAAG TCCCACTTCA 660
 30 TTGGGCTGTA CGCTTCATA CTGACGTTGA ACAAACATT TATCGGGTC GTGTACAGCT 720
 TCTGCTTCAG AAG 733

35 (2) INFORMATION FOR SEQ ID NO:854:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1538UP

50

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:854:

GATCCTTGGG ACGACATCGA CACCATTTCT ATCGGTAACG AACTTGTGAA CAACGGCCAG 60
 5 GCGACCGTGG ACCAGATGGC TGGTTACATG AAAACTGGCC GCAAGTGCTT CGCTGAGGCC 120
 GGCTACAAGG GCCCAGTTGT TTCCGTGGAC ACTTTCATCG CTGTAATCAA CAACCTGGT 180
 10 CTATGTGACC TATCAGACTA CATGGCTGTC AACGCCACC CATACTTCGA CTTCCACACT 240
 TCTGCTGCTA TGGCCGGGCC TTGGGTTTTG CACCAGATCC AGAGAGTCTG GAGCGCTGC 300
 15 AACGGTAACA AGAAAGTTGT CATCACCGAG ACGGGCTGGC CTACTCAGGG TCAGACTTAC 360
 GGCAAGGCCA TTCCATCCAA AGCCAACCAG AAGATGGCTT TGAATCTAT CAAGGCCACT 420
 20 TGTGGTGATA GCGCTATCCT ATTTACTGCT TTGACGACT ACTGGAAGCC AGATGGGCTT 480
 TAOGGTGTCC AGAAGTTCTG GGGTATGCTA TAAGTTGCGG TGTGCTTCTT TATGACCTGT 540
 25 CTCTTTATTT TGCTGGGAAC CCTTACATGC AGATGGGGGG TGGCGGTGCA TGGGCTGCA 600
 GCTCCGGGC CTGCAAGTTT CTACATCGCC CTACTTTAGC TGCCACGGGA CTTTGAATT 660
 30 TCTTTGGCAC GTGGTACTGC TGGCATCCTT CTCATAGAGC ACAGTGTGCC ACAGGGTATC 720
 ACTGG 725

35 (2) INFORMATION FOR SEQ ID NO:855:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1539RP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:855:

EP 0 866 129 A2

GATCAGACAT GGTGTTTTGC GGCCTCGCT CTTGTGGGT GGGTCACCG CAGTTCAC TG 60
 5 GGCAGCATC AGTTTTGGTG GCAGCAGAAA CCTTAGGAA TGTGACTTTC TCTTCGGAGG 120
 AAGTGTATA GCCTAAGGTT ATACTGCCAA CCGGACTGA GGA CTGGGC TTGGCCAAG 180
 10 GATGCTGCCA TAATGGTTAA ATGCCGCCCG TCTTGAACA CGACCAAGG AGTCTAACGT 240
 CTATCGAGT GTTGGGTGT AAAACCGTA CCGTAATGA AAGTGAACGT AGGTGAGGC 300
 15 CTCTTTAGAG GTGCATCATC GACCGATCCT GATGTCTTCG GATGGATTG AGTAAGACA 360
 TAGCTGTTGG GACCGAAAG ATGGTGAAC ATGCCTGAAT AGGTGAAGC CAGAGGAAAC 420
 20 TCTGGTGGAG GCTCGTAGCG GTTCTGACGT GCAAATCGAT CGTCGAATTT GGTATAGG 480
 GCGAAAGACT AATCGAACCA TCTAGTAGCT GGTCTCTGCC GAAGTTTCCC TCAGGATAGC 540
 25 AGAAGCTCGT ATCAGTTTTA TGAAGTAAAG CGAATGATTA GAGGTACCG GGTGAAATG 600
 ACCTGACCT ATTCTCAAAC TTAAATATG TAAGAAGTCC TTGTTGCTTA ATTGAACGTG 660
 30 GACATATGAA TGAAGAGCTT TAGTGGGCCA TTTTGGTAA GCAGAA 706

(2) INFORMATION FOR SEQ ID NO:856:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 743 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1539UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:856:

55 GATCACTACG TGACATTCCG TACCGAATGG CACTCCAATG CCGACAAAC TCTTCTACC 60

5 CCGTGAATT A CCCCAGTGTG CCAACTACCA CACATCTGG CCATAGCCCC AGCCATCTGG 120
 CACCAAATGT ACTOGATATC GTTATTACAT GTCTAGCCCC TCACGTGCAT CCACCATCTG 180
 ATATCATGTC TGCTCTAGGC TATATATTTC GGTTCGGGCC ATATCTACCA GAAAGCACCG 240
 10 TTCCCGTCC GATCAACTGT AGTTAAGCTG GTAAGACCT GACCGAGTAG TGTAGTGGGT 300
 GACCATACGC GAAACTCAGG TGCTGCAATC TTTTTTTTTT CCTCCTCTG CAAGCTGGCC 360
 15 GCCAACACAG GTCACCTAG TATGGCTCAC ATGCAATTCA GATATCTACT TCTGACTGGT 420
 CTGGTGGGG ATGCCATCA TTGCAACAG TGTGCTGCA TGGGACTTTA ACGAAGCTGC 480
 20 GATAATAATC AGAGATGTC TACTTATAAA ACATCAGGCA CAAAAGAAA GGTGCAGCGA 540
 AATGGTATAT ATAGGTCTC CAGATCCAC ACCGGTACCT CCTACTTGGC CGTATCTGGC 600
 25 TCTCGTGGC GCTTCCGCT GAGATGCTGT GGGCCCGAAA TGTACTCTCA AATGGGCTTG 660
 TTCAGTGGC CATACAGCTC ATAAGCTCAG TGGCCCGAT GCTTAGTAGT AGCTGGCCCG 720
 30 CTCTTCATAC TGCTGTCTGT ATA 743

(2) INFORMATION FOR SEQ ID NO:857:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1540RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:857:

55 GATCTTTTCT TTGTCAAAGT TCAACACCTG TAAGCCGCT CTAGATACCG CTCTAGAAAG 60

GGCACATAC GCTTGGCCCT TTTCAAAAC ACGTCTGAGA TCACATTCA CTTTGTTTAG 120
 5 TGTTTGGCCT TGAGATTTAT GAATGGACAA GGGCCATGCA AGCATGAGTG GCAATTGAAC 180
 TCTCGTACT AGAGGCTTCT CATTTTGTG CTCGATAGCC CATGCTCTT CTCGAACTAA 240
 10 AACTGTTCTG GTGGTATTGT CGGCTGGAA GAATGCACT AATGGCACT TCTTACCCTT 300
 TGAGCTCATG TGAATTCTCT GTAAGAGCTG CTTCTTCCGT TCTAGATTGG CCTTCACTTC 360
 15 AGGATCTGTG ACTTCTCGAT CATCTTTTAA GAAATCGAAT ATCGTGTGCG CCAAGTGGTC 420
 TACAGTGCA TCTGTGCTA TCGTCTAAA CTTCTCTCG AGAGCTTTCT TGAOCATGCT 480
 20 TGTGCGGGTC TCCTTCTTGG GCTCTCATC CTCATCAAGC TGGGGGGGT TCCAGTCGTT 540
 TTTCGCTAAT GCATCCGAT ATTTCTCCCA TTCTGCAAG TCAAGATCAT CATGCGAAC 600
 25 ACTTTGATAG AACATAAATG TTGCTCATC GATGAAGTCA ATGACCTTC CAGTGATCC 660
 GTTTACGAGT GTATCATCGA AGTTCTTAAT GTTCATAACC TGTGCGCGA CTTTAA 716

30 (2) INFORMATION FOR SEQ ID NO:858:

(i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 643 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 45 (A) ORGANISM: PAG1540UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:858:

GATCTCTGC GCGAAGAGCA CGCCTGCGC CCATCGGCA TAGGGGCCCC ACTTTGTAT 60
 55 GAACATTTCC CGCACAAGCT CCAGCTCCAT GTTCAGTTTC TTGCGCACAC TGGGAAGGTC 120

CTTGTATCGC GCTTTCAGCG CAGCGATCTT CGCTGCGAT GCATTGAACT TGTAGTCTCT 180
 5 TTGTGCGATC CTGTTGATGT GCACGTCTAC AGGCACATGG TGTCCATCT GCATGCCCAT 240
 GAGGCAGACG CAATCTGCGA CCTTGGACC CACCCCCGA ACCTCCATAA ACCGCTGACG 300
 10 GATCTCTCC CGCGATATCA TGTCTAGCCA GGATTCCAGG TGTTCAGTAT CGCTCATGTG 360
 TGCCGGTTTA CTTGAATCCA TCCATTCTGC CGCAGCATG ATATACTTGG CGCGATACC 420
 15 AAACCCCAA TCCCGCAGTG CGTCTCGCT AGCGCTTCC ATCAGCTGCT TGCTGGTGGG 480
 GAATGAGTAG TATGGAGTAC CGTCAGCTC GCGAGGAAG CTCCCTACT GCGAACACAG 540
 20 TGCATGGCAC ATCTTCGTGA TCGCCCGAT ATTGTGTGTG CTAGAGCAA TAAACGACA 600
 CAGTGCTCC CAGGGTCTT GTCCAGTAT TCCACGCCA CGA 643

25 (2) INFORMATION FOR SEQ ID NO:859:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 40 (A) ORGANISM: PAG1541RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:859:

GATCGAACAA CCATACTTTA GGCCACACG ACGTTCCCC TCGGGGATAT CCTGCCGCC 60
 50 CTCTACAAGA TTGGATTCAA TCATCACCC ACAAATGGCA TTCTACCTT TACTCAGCTG 120
 CTCATAGATA TCTTGGGCGA CTTCGGCTG GTTGCGGTAA TCCTTGTGG AATTTCATG 180
 55 CGAGCAGTCA ATCATAATCC TCCGCTGGAC CCCAGCGCT TCAACTAGCT TCGCATTGAC 240

CAAGTCTGTC TTAGCCTGTT GTACACTGGC AGCGTCATAG TTTGTGCCAT CTTTACCACC 300

5 GCGTAGAATG ATGAAGGTGT CCTCGTTACC TTCAGTCCCA ACAATGCGAG TCACTCCAGG 360

CTTGGTAACC GAAAGAAAGT AATGAGAGTG AGCAGCGGCA CGCATAGCGT CAATAGCAAC 420

10 CTGTAAGCAG CCATCTGTCC CGTTCCTGAA TCCGATCGGG AACGATAGTC CAGAAGCCAG 480

CTCACGGTGC AGCTGCGATT CTGTGCTCCG GCGCCCAATG GCGCCCAAGG AGAAGCAGTC 540

15 GCTTAAGAAC TCGGGCGATA TGGTGTCTAG CATTTCGCCC GCAATTGGAA TGTGCTCCAC 600

CAGCTGGGTG TACATCTCCC GCGAGATACG CAATCCCTTG TTTATTTGGA ACGAATTATC 660

20 GATGTGCGGG TCGTTGATGA GCGCCTTCCA CCCCACCGTG GTCCGCGGTT TTCCAGATAC 720

(2) INFORMATION FOR SEQ ID NO:860:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1541UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:860:

GATCAGCTGA TGAAGATTGT ACGTCATCAC TGCTATTTAA CACAAACATA ACATAATTCA 60

TCCGCGATAG TTTAATGGTT AGAATTGCGC CTGTGCGGCG GCGGGATCGG GGTTCAAATC 120

CCCGTGGCGG AGCTTTTTGT GACATTATT GAAACGGTIG TCGTTATAAC CGTTCGATG 180

GAATGTGGCA GGACCTGTGA ACGGCGACGT ATCCTGCAAC TTGACGIGT TGTGCGTCT 240

ACGCCAGGGC TTGGGCTTCC AGAAATTGGC TTTCCTCGAG CCGAGTTTTT TGTGACCCAA 300
 5 TATTTGAGCT GCTGATCATC AAGCTCTAGT CGCACACAGG GGGCCCGAGT ATCCATTGAC 360
 AAAGGTGGC GCAACATCCG ATCGCCGGGT CCTTTTATAT ATAAATATAC ACTAATGACA 420
 10 CATGCGAATA CCGACTGCC GTGGATAGGG GACGTTTGAG GCTCATAAC CCTCAATACA 480
 GATAACAAAA TTGGAATATA GGAGAAGAAA TGTTCGAGAG GCTAAACTT AGGTTCCGGC 540
 15 GATGCAGAAG ACTCAGAGCC AACGTTTAG CAGACGTTCC ATACCCGAAT CCCACGTTGA 600
 ATTCGCAAT CATTTCCAGA ATCGACACAA TCACGGTGTG AATCTGGGT CGCTATGTG 660
 20 CTTGAGAAGT GGATATCGAG TCGATGTTCC AATGTGGGG CGAGACCGAG CATGGGGGA 720
 TCAGGAAGAT GA 732

25 (2) INFORMATION FOR SEQ ID NO:861:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 614 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1542RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:861:

GATCATGTGG AGGAACTGG GCAGCGTCTC GGAGCCGGCG TAGTGGGCTA CTGTGGGGC 60
 50 GCGGGCAGCC GACTGCTGG GGTATTCCGG CGCCGGGGCA GCGGCGTGTG AGCCGATGCT 120
 GCTTCGGGG TGGCGGGGG CGAAGGCGTC TCGCGGGGG CGACGGGGC AGGGCGAGCC 180
 55 CCGTGGGAG AGCGCGAGCA CAAGGCAGTC GAGGGCGAGG AGCATGAGG TGGTGGGAT 240

GGTGGGGGCG TTGAGGCGGT CCTGGACGAC GCGCTGGGCG AGGTGGGGG GCTGGAAGAC 300
 5 GGTGATCAGC TGATGCGGCG GCGGGGCCAG CGTCCAGGCG GGATGCGCGG TGACGGCGAT 360
 GAGCGGGCTG GCGGGTGCGA AGCGGGGCGT GCGCAGGTAG GCGGCGAAGT GCAAGAGCTC 420
 10 GTCAGTCTCG CCGGAGTGG AGCAGAGCAG CAGGGGCTCG CCGTGGCGA CGATGCCGAT 480
 GTGCGCGTGC ATGGCCTCG TGGGGTGAA GACGCGGCG GGGATGCCA ACGAGTGGCA 540
 15 GGTGGGACA GTCTTGCGA TGATGCCGAA GGACTTGCCG CAGGCGACGA ACACGAGCTT 600
 GCGGCGTCC GCGA 614

(2) INFORMATION FOR SEQ ID NO:862:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1542UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:862:

GATCATTTAC CTACGCATCG GCCTGCCGCG CATTGCCGCA GACGGATCGC TCGAGACGG 60
 45 CTACCTGGAA CACTACTACG AGAAGCGTA CGCGCGGCG CTCTCGACG GCTGCCGTGT 120
 GCAGCGCTG ATAGGACTCC ACGGCTGCC GCTGTAGCGA GTCATGCCG TGTGCCGGAC 180
 50 CCGAGCGGTT TGCGTCTCG GGAGCTCCG GGTTCGACC GCTGGAAAA GGAGGGCCAC 240
 GCTGGTATAT AAACGGCACA CGAGCCATCC GGCGTCAGGA ATAGCGTGAG TCGACAAGAT 300
 55 GGGTGCGGAA CACGGTCTTA AGGACCTTCA GAAGAAGCCT GTGAGCTTTT CCAACATTC 360

CCTGGGAGCG GCGTGAATA TGTGGAGGT CACGACGCTT GGGCAACCGC TTGAGGTCAC 420
 5 CAAAAGACC ATGGCCGCAA ACCGGCAGTT CGGCTTTTTC CAAGGGTGC GGCACGTGTG 480
 GTCCCGTGGG GCGGTGTTCG GCTTTTACCA GGGGCTGATT CCGTGGGCTT GGATTGAGGC 540
 10 GTCCACCAAG GCGCGGTGC TGCTGTTTGT TTCTGCCGAA GCGAGTACC AGTTTCGGCG 600
 GCTTGGTCTC AGCAACTTCG GTGCAGGCAT CCTGGGCGGG TGTCTGGCGG CGTA 654

(2) INFORMATION FOR SEQ ID NO:863:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1543RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:863:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCATT GAGCTCTTAC GAACTGCACA 60
 AACCTACTCG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA 120
 40 AGTACCCCCC AGGCTATTTT TCTTACCCGC CTGGTGTTCG TCTATATAAC CGGTGTGATT 180
 TTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGCGCCA 240
 45 TGCGAAAATC TGCTTTTTC CCGCTGTTTC TCCAGTCTT AGCACTGGCA GAAAAAGAT 300
 GTATGGCGTA TAGCGCTCG CCGCGCGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA 360
 50 AAAAGACGTG GCGCGCCCG CCGGCAGACG AAGAAAAAAT AGGCGCCAC CCGTCCAAGC 420
 AGACGACAGG CGAGACATAA TAAATCCCA CACCAAGGA AGAAAGTCTT GTGCAGCTC 480
 55

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CCGGCCTCAT ACGCTGCCAT TCTGTTCAT CCGGCTTGCA AACCCAGTAG TGGCATGTCA 540
 5 AAGCATTGCT CCGACGCTCC GCTGCCTTGC AGTCGACATC CTCTTCTTAA CCCCAGCCAG 600
 ACTTCCATA CTTTGCACTT CACATAGCAT ATCACTTTTC AGATCACTAC GTGACATTGC 660
 10 GTACGGAATG GCACTCCAAT GCGACAAAC CTCTTCTTAC CCGTGACTT ACCC 714

(2) INFORMATION FOR SEQ ID NO:864:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 680 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1543UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:864:

GATCCGTAACT TCGGGATAA GGATTGGCTC TAAGGATCG GTAGTGAGG CCTTGGTCAG 60
 35 ACGCGGCAAG TGTGCTTGTG GTCTGTCTC GGGGGCTTGC TCCTGGGGAC GGAATGCTTG 120
 CGTCTCTGT CGTAGACGGC CTTGGTAAAC CATCTCTGGT CGTCGCTTGC TACAATTAA 180
 40 GATCAACTTA GAACTGGTAC GGACAAGGGG AATCTGACTG TCTAATTAAA ACATAGCAAT 240
 GCGATGGTCA GAAAGTGATG TTGACGCAAT GTGATTTCG CCGAGTCTC TGAATGTCAA 300
 45 AGTGAAGAAA TTCAACCAAG CCGGGGTAAA CCGGGGGAGT AACTATGACT CTCTTAAGGT 360
 AGCCAAATGC CTGTCATCT AATTAGTGAC GCGCATGAAT GGATTAAAG GATTCCACT 420
 50 GTCCCTATCT ACTATCTAGC GAAACACAG CCAAGGGAAC GGGCTTGGCA GAATCAGCG 480
 GGAAAGAAGA CCTGTGTGAG CTTGACTCTA GTTTGACATT GTGAAGAGAC ATAGAAGGTG 540

TAGAATAAGT GGGAACTTCG GCGCCAGTGA AATACCACTA CCTTTATAGT TTCTTTACTT 600

5 ATTCAATTAA GCGGAGCTGG AATTCATTTT CCACCTTCTA GCATTTAAAG TCCTATAACG 660

GGCTGATCCG GGTGAAGAC 680

10 (2) INFORMATION FOR SEQ ID NO:865:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 686 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1544RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:865:

30 GATCTCAACA AGATCAATAG GCATATCCTG CCGGCTAGGG ACACCACTGA ATTTTATGAC 60

35 GAGAAGGCCG AAGAGTTGGA CGCAGTGTG AGAATGGAAG AAATGGCCAT TGGATGGGC 120

AAACGGGGCA AGTGGCTGAT GAAGCACTGC GAGGGCGATG TGCTAGAAGT TGCATCTGGT 180

40 ACTGGTAGGA ATATAGATTA CCTAGACTTG AGCAAAATCG ACACAATCAC CTTTCTGGAT 240

GCGTCTAAGA ATATGATGAA GATCGCCAAT AAGAAGTTCA GAGAAAATA CCCACACTTC 300

45 AAACAAGCTG CATTCGTAGT TGGAAAAGCA GAAGATTTAG TGGACCTGCC GACTGGGCAT 360

TGGCCTCAGC AACAGAATCT GGAATTGGTC AACTCTCCTG AGCAGGTGAT CCCGAGTCC 420

50 AAGCCCAAGG TTAAATACGA TACCATCATC GAAGCCTTCG GTCTGTGCTC TCACCATGAT 480

CCTGTACGGG CATTGAAAAA CTTTGCGAAA TTGCTAAAGC CTGGCGAAG AATAGTTCTG 540

55 CTTGAGCATG GCAGAGGGAC CTATGACGTT GTGAACAAGA TTCTAGACAA GAGAGCCGAG 600

CACCGTCTCG AGACCTGGGG CTGCAGATGG AACTTGGATA TTGGCGAAAT TCTAGATGAC 660

5 TCTGATCTAG AATGTCACC GAAAAA 686

(2) INFORMATION FOR SEQ ID NO:866:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 683 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1544UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:866:

GATCAAATTC CAATCTCCGT CAGGTCAGG CAGCCGGGTT ATGTGTGAA CTCTTCGCTG 60

30 CTCTCTTTCT CTTCGCTGAA CCGCAAGAA AATTCACCT CACGCGAAC CAGAGGCGAA 120

AAACTGAAAA TGAAATAAGG CGCCGGCTTC CGAGGAGTT GCGGCTCGT GCAGCTCTAC 180

35 TTGCAATACC CGCAATAGGA CTACCAGACC TTATTAGACA CTGTAATATG TGGGCAGCAG 240

TAGGTGCAGT CTACAAACTT TTATAGCGCA GCGGGGGTA TTAATCTTTT CTGCTCCCGC 300

40 GTCCCGGATA AGTTGTGACT CACAGTCCCG CGGACGGAAC GTCCGACCGA GTGCGGCGAA 360

TAATGAGTAA TGTCTATGT ASTGGTTGCT AGGGGGCTGA AGGCTATGCT CTGGGGTAGC 420

45 TGGAAATGCA CGCAGAACAT GGGCTTCGTA GGTGCCACTT TGCGCAGGAG GTGGAAAGAC 480

AGCGCAGTCA TCGCAGGAT GTCTGGGCTG GTGTGCATTA TCTCGAGCAC ACGCGGTGT 540

50 ATGCGGGGCT GCAGGTCTGC TGGCGCGGCG TGGGCTCGT CCGGCTGTA TTTCTCGAAA 600

CAGTGACAGT GGATGTAGGG CAGCACCAAW TGCTGGGTG GCAGCGGCGT OCTCCGAGAT 660

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683

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(vi) ORIGINAL SOURCE:

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TCGCGAAGT GGTGTGTCT TGGATGTGG AAGTGAGGT CAGCTGTCA TCTT 714

(2) INFORMATION FOR SEQ ID NO:868:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 576 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1545UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:868:

GATCATCTTG CAGGGACCGC WCCAGGTGC GTAGAAGTCC ACGACCAAGA GCTTGTGGGA 60
 GCCCACGGCG GACTCAAATT CAGAAAGGGA CTTGATTTCG GACACCATTG CGTTCTGTGT 120
 GGCTGACTGT ACCTTGTGTA TACGCAGTAC CCAGGAAGCC GGGCGGAGCC CGGCTTTTTA 180
 TACCCGGCCG CCGGGGTCA CGTGTACCA CGTGGGGGT CTCCCCCTTA TTTCGGCTCA 240
 GGAGATAAGG ATGACAAACG CGTCTGCGG CGGTCCGCAT TGAAGTCTTC GACAGCAATG 300
 GAACCTCTGC TATAAGCGGT GTCTGGCGC CGAGCCTTCT CAATGGTGG TCTCTCTGTT 360
 CGCTTTGTGT ACGCCAGGCG CGGTTTGTGTT TAGGTTTGG ACGGGGTTGG ATCTCCAACG 420
 CACGGTGGAA TAAAGAACAT GAAAGCCAGT TGTACAGTAG CTACACCCA GCAGACGAAG 480
 CATCAGCAGG CAGTTGAGAG CGGTACGAG AAGTTCCGTT ATAGAGCACA CTOGAGACCA 540
 TAGAGGTCAT CGCTAGGCG GTACTTCAGG TCAGGC 576

(2) INFORMATION FOR SEQ ID NO:869:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 741 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1546RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:869:

15	GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GCCCCTTTTC	60
	CAATATTTTG AGCGTCGTTT CATAGCTCGG AAGACGCAGC AGAAGCCCCC CCAGTAGTGT	120
20	CTGTTCAATG TGGCTCATGA AAGGTGCTTC TATCAAATCT AGCTOCATCA TGCACAGTA	180
	GTTATTATCT TTCTTCCAAG ACAGAGGCAC ATGCCGCAAC TTGTCAGGA TTACAGTAAA	240
25	ATAATGTTAG AACCGCGGAC TCACAGAAGC GACGACCGCT CGAAATGAAG TGGGCCCCGT	300
	AAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TGGGAAAGTC TGTTCACGGG	360
30	GGACACCGTG CCCATAAGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT	420
	CCGCGCGAGC TCAGTCTCAA GCTCGTCGAT CCGTGCAGC AGCTCCACAT TGGGCGTGA	480
35	GCTGAACAGC TCCGTTGAGT TCACGTCTGT CGTAAACTCA GACAGGTACA CACACTGGGG	540
	CAGGCCCTTC CCAATACATG TAGAGCACTT CGGCCGCGCC TTGTTGCACT TGACGCGCCG	600
40	CTTGCGGCAG AACACGCAG ACTTGCTGAC CTTCGCGCTG GTTTCACAA TCTTGCCATC	660
	GGACTCTGCC ATCCCGCCAG CTTCAAGCAA AATGAGTAGG TCATATTATT TACCTGCTGG	720
45	TAATCTTGAA TAATGCTCAC T	741

(2) INFORMATION FOR SEQ ID NO:870:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1546UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:870:

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15  GATCGCGGAC TGAACACTG GCCGAGATG CCGCGGCCA TCCTGGTGGT TTCTGCGGAC      60
    CGCAAGGACA CGCATCGAC GAGCGGTATG CAGCAGAAGG TGCACAGTC GGACCTCTTC      120
20  AAGGAGCGCG TCGGACGGT GGTGCGCGG CGGTACGAG AGATGCGGC GCGATCCG      180
    CCGCGGACT TCGGACGTT TCGCGGCTG ACGATGCAGG ACTCGAATC GTTTCAGCC      240
25  ACCTGCCTGG ACTCATTTCC GCGATCTTC TACATGAAC ACACTTCGG CCGGATTGTC      300
    AAGCTGTGTC ATCTGATCAA CGAGTTCTAC AACGAGACCA TCGTGGGTA CAGGTTTGAC      360
30  GCGGGTCCGA ACGGGTGCT CTATTACTTG GCGGAGAAG AGGCGCGCT CTCGGCTTC      420
    CTCTCTGCCG TCTTTGGGC CAACGAGGC TGGGAGACCA CGTTCTGAC GGAGCAGGC      480
35  GCCACCTTGG CCGCGCAGT CGACGAGTGC GTGCGGCGCA AGCTTGCGAC GGACCTGGAC      540
    GACGAGTTGC ACAGAAGAGT TGCCCGCTC ATCTTCACGA AGGTGGGCG AGGGCCCCAA      600
40  GACACTAAAT CCTCGTCAAT CGACCCGAGA CCGGCCTGCC CGTGACGCT ATTCTCTTGC      660
    TATTTTCTGC TCTGTATACC CTGCCAGACC GCGCTATATA TATAGAA      707
45

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(2) INFORMATION FOR SEQ ID NO:871:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1547RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:871:

GATCCTCCGC CTACACCAGA ATATTTCTGG CCAATTAGTT GTTCACCATC GCCCCGAACG	60
TTGGTGAAGC CACGGCCATA CGCTCCCATG CCGAGTGCAA TTTTCTCTGG GCTGACCTTA	120
AATTGTTGGG TCATCATGAG TATCGCATCA TGTGCATTCA ACTCATCAAA GTTGTCAATA	180
CCCATATCTT CATACCGAGC CTTATCTAGG TCGATTGTG ACGGGGAATT CGTAGCATTG	240
TACAAGTTGC TATGGTAGCC TGTTCGCTCT GACCATGCAC CGTGGTAGTC GTATGTCATC	300
ATATTCCACA TGCTGAGATA CTTGTTTCATC TCTCAACCG GGAAAATGCC AAGTGTCTGA	360
GGAAAGGCGG GTGCTGCCAT GCTTAAGTGG AAGCGGGTT CTGTAGTCCC GCGGGGGCCC	420
CAGATATTGT CTTCCAATTC GTCCATCTTG TGTGCAAGC GGCTACACAT TTCTAGATAC	480
ATCTGGGGTT CGTAGCCATC ATCCTTAGGG AACTCCAGT CAAGATCTAT CCCATCGAAG	540
CCGTACTCAA ACATTGGGTC GATGCGGAG TCGATGAAGT TGTTAACTT CTCCTGTCA	600
CGCACAATTT TATGGAACCG CTCGCGATTG GAACAGCGC CAACGGGCAT CATGAGCTTG	660
AAATCGGTCC CTGGCGCGT CTTGAGGTAA TTAAGCTTCG CCTATTGCC	710

(2) INFORMATION FOR SEQ ID NO:872:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 608 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1547UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:872:

GATCTCTGAG GGTTCOAAGG CAAGCCCGCC GGAGCTTGCC CAAATTGIGT CACCCGCTCT 60
 CGAGTAGATG GTGGCCTTGT CGACCTTCCC GGTTCGTAAC AAGTTGTCAG TGTAGGCTAA 120
 AGCTCTAGTT AGTACCCACG AACGGGCCAC GAGCAGAACA CGTAAAAACA CATACTTTC 180
 CAAGACATGA TGGGTTCGGG ATGAAATCTG AGTTAGTGCT AACACTGCA GATGCTCTGG 240
 TGAGTGAAT CTACGTATCA ATAGTATTGA TTTGTCAATA AATATACTT GGCTTTTTGT 300
 AATCTTTTTA TATAAGGGGT TCCGATCTGC TGACATCATA GCACAGAAT TAAGTATCCG 360
 GGTAACGAAC TGCCCGGGTA ATGCGGGGCA CAGGGCAAGT GCGGGTAAC GGCATCCACA 420
 TACCGCAGAG ATGCACTGGC GGCTACATAC TGTACACAGG CTGCGAGCTA CTGCTGCTCT 480
 GAGTGAGAA CAGCCACTT GCGACGCTTG AGAGCGACCT CTTCATCTGC GCGGGGGGCC 540
 GCGGGGGCAG CAGCGTACTT GGCTGCGCCC TCGGTTTCA GCTGCTGCAG ACGGGGGGCG 600
 TTTAGGTC 608

(2) INFORMATION FOR SEQ ID NO:873:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1548RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:873:

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5      GATCATCATT GCTCGGTTAG CGATTGCCCG CAATTTTACA GCTGGTTCAT CGCTAGGCGG      60
      TAAGGCGACC GCGGGTAGTT TCCTGTCTTA CCGGTCCGTG GIGTTTGGTT TTGCATCGGG      120
10     ATGGACAACA TATGCTGCAG ACTACACTGT CTACATGCC AAAAATTCTA ACAAATACCG      180
      CATCTTTTTC TTCATGATTG CCGGTCTTGC GACCCCGTTG CTGTTACGT TGATTCTTGG      240
15     AGCTGCTGCC GGGCGCTGTG TGCACACAAA TCCTACGTGG GGGAATATT ACAAAAACA      300
      TTCGTTGGGA GGTCTGTGCT TTGCTATACT GGCTGAAAAC GCTCTGGGGG GGTTTGGGCA      360
20     GTTCTGCTGC GTTGTA CTG CCAATGTCAC AGTTGCAAAC AATATTCCAA ACATGTATT      420
      CATGCTCTC AGCACCAGG CGCTGTGGAG TCGTTTGGG CGTGTGCCAC GAGTGTCTG      480
25     GACCCCTGGT GCAACGCAT GCAGCTTGGT CATTGCAATC GTTGGTACT ACAAGTTTGA      540
      GACCTTCATG ACCAGCTTTA TGGATTCAAT TGGCTACTAC CTCTCCATAT ACATGTAT      600
30     ATGTTGCTACT GAGCACTTGG TCTTCGCAA GGGCTTCGGT GGTACAGT CAGCCACTGG      660
      GAACGTCCCG ATCTTCTCTC AGCTGGTTAC GCTGGCTGGG CTGGCC      706

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(2) INFORMATION FOR SEQ ID NO:874:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 590 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1548UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:874:

GATGACAGA TTACAGTTAC AAGCGAGAGT TGGGCTATT TAAGGAACAG AACCTATACC 60

5 ACATTTTGAAG CTGAGTTTTT GGCACGCCAA GACCGATTTG CGGATTAACT ATCTTGAAGT 120

TTGCACTCAG ACTCAAGAAC TACTATTACG ATACTATAAC AAAGACGATG ACTAGCACAG 180

10 CCGACCACAA GCAGCCCATTT TGGTTGAAGG TTAACGGGGC TCTATTGAC GTCGACGGGA 240

CCATCATCAT CTGCAGCCC GCGCTAGCGG CCTTCTGGAG GGAGTTTGGC AAGGACAAGC 300

15 CGTACTTGA TGGGAGCAT GTCATCAGTG CCACCCACGG CTGGAGAACC TAGACGCCA 360

TGCTACCTT CCGCCAGAC TATCTGAGTG AGGAGTACGT GACGAGACTG GAGGGGAAA 420

20 TCCAGACAA GTAGGCCAAG TTCTCGTGG AGGTTCGGG CGCTGTTACG CTCTCAATT 480

GCCTTGAACR AACTTCCGAA GGAAATTTGG GCGTTGGTA CTTCGGGCC CTTCAGATG 540

25 GCACCAAGTG GTTCGATGTC CTGGCATCA AGGTCTTAG CACCTTCATT 590

(2) INFORMATION FOR SEQ ID NO:875:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 736 base pairs

(B) TYPE: nucleic acid

35 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1549RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:875:

50 GATCTGCTTG GTCTGACCAC CGAAACCCGA CTGCTTACGG TCATATCTTC TCTTACCCTG 60

AGCAAACAAG GAAGCCTTAC CGGCTTGTA CTGGGTACC TTGTGCTGGG TGTGCTTGG 120

55 GCAGGCTTG CCTTGCACT AAGTCTTTCT GGTCTTTGGA ACGTTAACTG CACAGTTAG 180

TATACGTCCT CTGGCGAGT CCCTTTTGA TCTOCAGCG CGCGTCAGA AGGCGCTGCT 240
 5 GTAGCGAGCC GTGGCCCCCT GGCGCGGCTC CGCGCTTCC CTOGTCATA TTGAACATAC 300
 CCATTGCGAG AAGTAGCTTC TGTGATGCTC TGTCTTACT ATCAAGCAGG ATGACACCCG 360
 10 GGCTTGAATC CTGAAATTTA CCATGTTTTT CGCTTGGGA GCTGGGCGG CGGCGCGGC 420
 GGCTGCGCG CGGAAGGTC CAGTCTGCC CGGCTGCGT CGGCCAGTT CACCGGGCC 480
 15 ACCACCGAGC GTGGTGATGC ACCATGTC AGTATGTGTG GGTTTGAAT AATAGATGT 540
 ATGGGTGTAG TCACATGTTT GTCACAGCA CTCTCGCG GCTAACGCT CGAGATTGC 600
 20 CAATGCTGT GGCGCATAG GCGATGGCAG CCATGCTTG AGCTCTGCG GGGTTAGAG 660
 CCCAAGTCAT TAGACTGCG CACTGCAAGC GTCTGACCG CAGGTTTAA GCTGGTGTGT 720
 25 GGCGCTGCG TACGTT 736

(2) INFORMATION FOR SEQ ID NO:876:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1549UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:876:

GATCATGTA TAATCACCC ACAGACCTT TTGCAGGTC TCGGCTTG CCCCAGCTT 60
 50 CTGCTCGTAG AACTTEGCA ACAGACTGAC GTTGAACCC CACCATCTG CAGCAGAGC 120
 AAAAATCACA TTGTTCCGG ACGGTCGAA GTATATGTCC GCATCATCC GCTCCACATA 180
 55

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CTGGGCTGG GCGTCTGCT CCAGTTTCTC TCTCCAGAG AGGTATCCA GCAGCGCTC 240
 5 CCGGCAAAG AAGGACCCA GTACAGAGTT GACCTGTTC ATGTCTTTC ATAGATGCAC 300
 GTAGGCTTC TGTGGGCTCA GCTGGAGCTC CGTGATCAGC CGATGATCT TGTTCAGCAC 360
 10 CAGGATTGGT CTCAGCTTCT CCGTCCAGCA CTGCGGCAGC ACGTAATCG TCTGGGAACA 420
 CACACCTCG ACCAGTCCA CCAGCAGAT CGGCCATCA CATAGCCCG AGCGCGCT 480
 15 AACCTGCTG GAGAAGTCTA TGTGGCCCG AGAGTGTATC AGGTGATTA AATGTTGTT 540
 GACCAGGCG TCGCTGCTC CCTCTGTTT GTGAAGCACT CGAAGTTAC AGAGAAATG 600
 20 CACTGGACTC CATCGTATG CTTGCGAGCT GCTCATCTG CCGGAGTCT AGGAATGCA 660
 CTTTCCCGC TAACCGCTG GAGATAATC CGTTGGATC GAGGAG 707

(2) INFORMATION FOR SEQ ID NO:877:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1550RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:877:

GATGAGTAC ACAAAGTACA TGGATGCTGC CAATAACTAT AGTCTGAAAT CAATGCTTC 60
 CTTAGCGAAT GCAGATGAGT TGGCGCAGCT GGCATCATTT AACTCCATCA GCCATTATTT 120
 50 ATTGGCTGAA TGCCATCTG TCAGACACT ACAATTTTTA TTAAGCTCAT CTAAATTGTA 180
 CCCAAAATTA ACGAAGGAGA ATCAAGAATC TGCAATTATC GAAACACTGC TGTCTCTCAG 240

TGAATTTACG TTGCTGCACG ACTTCTCTCT CCAGGCAGGT TTCCAGGTGG AAAAATCGGT 300
 5 CATTTTGAAG TACTTTTGGC GCTTTTTC AAAGGCACCA AATGGGTCCA GGGGACCGGC 360
 CAGAAATGAC AAAGGCGAGG AACAACTTTC GCTTACTGCC CAAAAGGAC TATTATTATC 420
 10 TTGAGACTCT TCTTGATGTC GCAGACGCTT TGGCAAAGTA TTGCTAAGC TACTCAGTG 480
 GACAACCCCT CAGACCATCG CATATATTGG ATCTCAAAGA TGATCCATTC AGAATCATAA 540
 15 GCAAACCTGCT AGAAACGAAT CCCAGTCTGT ACCGTGACGT TGAAACGACT TTGAAATCC 600
 TCAAGCAATT ATATGAAGGA TTGCAACTGC AGCTCATGA TCCAAAGTAC ACAAGTGAAT 660
 20 ATACCCGTTT GCTAGTCTGT CACATIGATT GTGCATTGGC AAATAT 706

(2) INFORMATION FOR SEQ ID NO:878:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1550UP

40
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:878:

45 GATCTCTCTC CGGATATCA TGCTTAGCCA GGATTCCAGG TGTTCAATAT CGCTCATGTG 60
 TCCCGGTTTA CTTGAATCCA TCCATTCTGC CGCAGCCATG ATATACTTGG CGGATACCC 120
 50 AAACCCCAAA TCCCGCAGTG CGTCTCGCT AGGCGCTTCC ATCAGCTGCT TGCTGGTGGG 180
 GAATGAGTAG TATGGAGTAC CGTCGAGCTC GCGAGGAAG CTCCCGTACT GCGAACACAG 240
 55 TGCATGGCAC ATCTTCGTGA TCGCCCGAT ATTGTTGTTG CTAGACCAA TAAACGAGCA 300

CAGTGTCTCC CAGGGTTCCT GTGCGAGTAT TCGCAGCCA CGATGTGTTT TCCGATGAA 360
 5 ACGTGTGTCT GCTTTCGCC ATTCTGCTAA CAAAGCCTCT AGGTTCACTT CCATCGTAG 420
 GTAGCGCATC AGCCATTGTC GTGCGGCCCC GCTGCGTGG TCATCTTTAT TCCAGCTAC 480
 10 GCTGAATTCA ATACTGCACT GATCGGGCTG CTTCAATACA ATAATACGAT AGCCAGCTT 540
 GTCATTTAGT AGCATGCTCG CGGAATAGTA CCTTTTCTCA TGATTCCAGA TCCACCTGAA 600
 15 CGCTGACCA CATTGCAATA CATGGTCCAG GACTATTTCT CCTTTGGGA ATATCAATCT 660
 GTTAACTTC ATAAGTGTG ATACAGCACT GACCTGCTC TAATAATCAG CGTACGGCG 720
 20 CTGGCTGAG CATGTT 736

(2) INFORMATION FOR SEQ ID NO:879:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1551RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:879:

45 GATCTCAGT GAATGGATA TCTGCTCAAC GGCAATTCT CGTATATTCT GACGAGATCT 60
 TGGCGTCAAT TACGTGCACT TTGGCCGAAG CCTTGGCAG AGCTTCTAG ATACAGAATG 120
 50 CTGCCAGGTG CATCTTAAAA AGCGGGTTTA CAGTGAGGCC TCCGTCTTC AGGGCACCAG 180
 CCCTAACTG TACATAGTTT CTGTTATGTA GTTTGCCTTT CCTCGGATG CCTGCCTCTT 240
 55 GTGGAACAAA AACAGGCGGT AGAAGGAAAT TCCCGTGGT CATCGGTATC GGAAGGCGTC 300

TGCCTGATC TGGGAGTAG CTTTATGAGC CATTAGTGAG GAACGCCAGT TTCGACGACA 360
 5 GATTTAGTCT TTCTGTGTT CCGCAAACA GGCTTGGAAT GTATCAGCC GCTGGCGCAG 420
 CGACAGGGA CACCGCTTCA CATAGGGAGA GGCCACCCAC TGAACACCG GTGCACTGTC 480
 10 AGGGGGGCA GCGTACTGCC TACAATGGTA TGTCCGCA ACGGCAGGC AACCGGCAGA 540
 GCGGCATTT AGATCTAAAT TTATCAGCC ATGCACGGAT GGATTTACG CAGGTGTG 600
 15 CCGCAGCAG GGGCAGCCA GACTGCGAGG TGGCAAATAA TTCACATAG AACCTGCATT 660
 ATAAACATCC CAAGTCATTA AACTTACTAA ATATTGTTC GT 702

20 (2) INFORMATION FOR SEQ ID NO:880:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 735 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1551UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:880:

40 GATCCCGGTG AAGCTGGCA ACTGCACGT GCGCTACGAG GACCCGGGGG GGCAGTGA 60
 GCTGGGCAC TAGACTACT CGAGGAGCT GGACCGTAT CTGAAGGATA TCGAGGTGA 120
 45 GTACAGGTG CTGGGTACA ACTGGCGAC GTTCTGGCG TAGTGCAAG AGCTGGAGGA 180
 GGGGAGTTC CGCAGTTCT TCTGCGAGT GCTGCGTAC GCGCGGAGA ACGAGGTGA 240
 50 CCGCGGAAG CTGTGGGCG GCGCTGTGAA GGAGCGCTG ATGCAGGAG TGATCACCG 300
 CAGAAAGCG TGTCACTCA CCGTTGTG CCGCGAGGA GGAGCGCAG CGACGGCAG 360
 55

TGGAGGACGA CTGGCACAGC AAGCTGACG AGCGGAGCCG CTTCCTGGG CTGCGGAGCA 420
 5 AGCTCGTGGC CAAGCGTGCC AAGAAGACCA AGGACGGCT GTGGACGGTG CTGTGGGAGC 480
 GCTTCAGAG CGACGCTAAG ATGAGAAGA TGCGGCGCCG CAACGAGGCC GCCACGCCCG 540
 10 AGGCGGGCGG CGACGAGCTC CTGACGCCCG GGGAGCGCTA CGCGCTGGAG CAGGGGCAGG 600
 GCTTCCTTGG CGCTGTGCT CCCTGTGCGG GAGCGGGCGC CGGCCCTGGC CGTGCCCTGC 660
 15 AACGAGCTTC CCGATGAATA CTGCATCACC AAGACTGACT TCGACGGCT CGCTAGCCAC 720
 GGCATCCCGG TCGAG 735

(2) INFORMATION FOR SEQ ID NO:881:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 804 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1552RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:881:

GATGTGCGC TCATGCCACC ACAACTTCCA CGTCCACTGC ATCTACCACT GGTCAACAC 60
 45 CTCCACGTCC AAGGGCTCT GTCCGATGTG CAGGCAAGCG TTCTCACTCC GGGAGGGCAT 120
 CCGCATTAAC GAGCCCCACC GCGACAAGTT CGAGAAGGTG TTGATGAAGG CGCGCCAGCA 180
 50 GAGCGTGGTG AGCGTGGCGG GCGCCAACCC GGTGGGGCCG GACCAGGACG ACGTCATCAT 240
 CKACCAGGAG TTCATCCGCT GACACTAACT AGCTGTGTA CCATGTAAA AATAATGCTT 300
 55 CCAACCAGAT TCGAACTGAT GATCTCCACA TTAGTAGTGT GGCGCTTAC CAACTTGGCC 360

ATAGAAGCAA TAGGAGGTC TAGCGGACTG CGCCGGGCTA TATGCGCGCG GCGTGACCGC 420
 5 GACGAAACGC TGGCGCCCAA ATACCTGATC CCAGGTTTCC AACGCTGGTC ACGCAACTTC 480
 TGGCAGGTGC ACTGCACACC ACGCCAGCAC TATATAGCCC CGCACCGGCC AGGCGTTCTT 540
 10 GCCAGGTCAC CGCGTCCAGC TGTGCTGGCA GCATTCCACC TGAAAAAGTT TCACCAGCAG 600
 AAAGACTTTT CCACTTCTCA ATAGCACTTC TATCCCTAT TTCTCAGCA GTTTTGCAAT 660
 15 GAGCTACACT ACCAGACAGA TTGGAGCTAA GAACACCTTG GACTACGGG TGTTCATCGA 720
 GAAGCGGCA AGGTGCTTC GCGTTCAC GACATCCAT TGTACGGGA NGAGAGAACC 780
 20 AATCTTCNAC ATGGTGGTGG ANAT 804

(2) INFORMATION FOR SEQ ID NO:882:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 490 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1552UP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:882:

45 GATCTTGCA GACACGCTGC GCGGTAGTC CGTGGAGTG CAGACTGGT CGCGAATAA 60
 ATAGCTTTGT GCCAGCGGCT CGCGAGGGG TTGGGGACT CACCGCATAA AAGAAACAG 120
 50 CTGGGGCGGC GCGGCGCAA AGCAGCCAG CGCAACGGG GCGGCGCAA AGCAACCGT 180
 ACACAAGATA TGGCAGATTC ACCTACATAT TATACATAG CGGCGCGGC ACGCGGCTCA 240
 55 GCGGCGAAG CCGTACAATG TGGGCGCTG GCGTTGAGC GGTACACGA CGTGGAGGA 300

GGTGACGGTC TTGCGCTTGG CGTGCTGGT GTAGGTGACG GCGTGGCGGA TGACGGACTC 360
 5 CAGGAACGAC TTGAGCACCG CCGGCACGTC CTGTAGATG AGGCGGAGA TTGCGTTGAC 420
 CCGGCCACGG CCGGCCAGGC GCGGATGGC GGGCTTGGTG ATGCCCTGGA TGTGTGCGG 480
 10 GAGGATCTTG 490

(2) INFORMATION FOR SEQ ID NO:883:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1553RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:883:

GATCCGCAGG TGTACACGT TCACAACTG GTCCGGTAC ATCATGTTGA ATGCTTGA 60
 35 CTCCCCGC GTCACCAGG TGTGGTGGG GAAATCCATC GAGCTGACCA TGCAAGAGTG 120
 CCCCAGAAC GTCTTCACCA CCGTGTGCT GTTTGGGTCC AGCAGGTGA GCATCCGTT 180
 40 CTGCGCGCA ACCGCATCA GTGGTGTCT CGACTGCATC AGCTTCACT TGAAGAGTA 240
 CTGCACCGTG TTGCTCAACC GCCCCTCAC CAGGTCCACC GCCACCAGC CACTGGCCAG 300
 45 GTTCGTCCC CCGCAGTACA CCGTGTCTG CGAGTTGCTG CCGTAGCACA TCGCCCGCAT 360
 GTCCATAGT TGTGGATGT CCGCCGAGT TACGTGCAGT TTGTTCACG TCGCCCGTT 420
 50 CGCGAAGTTC AATGACTGC CCGCCAGCA CAAGACGCC TGCTTGTGGC TCAGCAACTC 480
 CACCACGGC TCTGCCCCGA TGTGTGCGT GTCCCGGTG TATAGCGAGT ATGACGGTC 540
 55

GTACGACGAC ACCCGTCCGT ATGTGTCCCC ACCCAGATCA GATTGACGTC CTGGTCAAAC 600

5 GCCATCTTTCG TCGCGCTCTT CTCCTTGGCG TGTAAAGCCC AATACAACCTT GCGCAGGTGC 660

TGGTGAGCT CCACCGGCGA CTGGTATGAA A 691

10 (2) INFORMATION FOR SEQ ID NO:884:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 708 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1553UP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:884:

30

GATCCGCGCT GTGTGCCCCC ACCCAATGCC TACCTGTTC A CTGTCTCCA GGCTCCACAC 60

CCGAATCGAG CGGTATCCG AGCATGATGC AACCAGTCGC CCGTGTGTC TCACCAACGC 120

35

GCAGAAGATC GAGCCCTCGT GGGCTCCAG CCGCTGCAC ACCGCCCCCG TGTGCAGCTC 180

CCACACCACC ACCCGGCCCA TCACCGTCC CGGCACACA TACACCGCAT CGCCACCAC 240

40

CTTCACCGAC CCGAGTACA GCAGGACCG CTCACCCCG TTGATGCTGC GCACCACAG 300

CATCTCCAGG TCATCTCCA GCAGCTGTT GTAGCAGTC AGCAGGTAAC ACGAGCGCCC 360

45

GTCCGGCTG AAGCGCGCCC CGAGCACCA CTCGGCGTC ATGTACTCGT GATACTTCAG 420

GTCCGGCGC GTCATCACT CCTCAACTC CAAGATGCTC ACCGACCGT CCGCATATGC 480

50

AATTACCCAC CCGTCTGCA CGCATATCC GTGCACCTG TTTCGCTGA AAACCCGCCA 540

GCGTTCAGC AGCACTCCG CGGATACTC GTATACGTAG ATTTCGGGC CGCACCTGC 600

55

TAGGCACCTC CCGTCCCGA GAATCCGCAC TGCAGTGCAT GGCGCAATGT CATTGACCTT 660

5 ATCCAGCGAC ATATTTCATCG TTTAATCGAC TATGATCCCG ATCTAATG 708

(2) INFORMATION FOR SEQ ID NO:885:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1554RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:885:

30 GATCAAACCTA GGAATTTTGT ATAATACTGA AGAAGGTCCC ATATTCAAGT CTCTATCCAG 60

CGATGATGAG GAAGTGGGTG AGATTGTGCT GCAAGACCTG ATGAACAATC TCGATTTCAT 120

35 AACTATGGAT CATCCTGACA GATCGAGAAA CCAAACTCAT CAAGATAGAC CGATGATGAT 180

CAAGAACTAG TTTGAGATCC CTCTGCTACA AACACATACC TAGATTTCTC ATATTTTATA 240

40 CTGAATACAT ATAATATATC ATTAACTGT CTTCAATTCAT GAGACGTGCT CTAAGTTCTG 300

TGCTGCTCAA CTGTGTTTTT CACTGTGTCG CCTCTTCGCC CCCAGTAGG TTCACACAT 360

45 GCACGGCTAG CTTCTCATTT CCTTTGCTCT CACGGTATC GTTGATTGTC TGGGCACGG 420

CCACAGTTTC CTCCTCACT ACCAGGGCTT CGATACCAGG TTCCTACCC GTGGCCCCG 480

50 ACAAGTCTTG TAACGCAAT ATTTTGATTT CCAGCCCCG TTTCAAGCTG TGAAGGAAGC 540

TCACACGTT ATCGCATCGT TCGTCGAAG ACTGAAGCTG CTCCTGTAT TTCTGTGTTCC 600

55 GCACAGTTC TTATCTGTA ATCCCCACGA TCAGCCGGGA AGCAGTCAG AGCGCGCAA 660

CACTGAGCAA TATTTTATGT CCGTCGTGTA AGTGGTCGAA AGTGC

705

(2) INFORMATION FOR SEQ ID NO:886:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 727 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1554UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:886:

GATCACTGAG GAAATCAAAA CCTTGAACAG CTTCCTGTG TTGGGTTGT ACGGTGTGGA 60
CTGTGCCCCA GTTGAGACTG TCTCCAGGC CAAGGCTCCA GGCCAAAAGC TCTTCTAGG 120
TATCTTCTTC GTCGACCAAA TTGAGGCGG CGTGAAGGC ATCAAGGAGG CTGTCAGAA 180
GCATGGATCC TGGGACGACA TCGACACCAT TTCTATGGT AACGAAC TTG TGAACAACGG 240
CCAGGCGACC GTGGACCAGA TGGCTGGTTA CATGAAACT GCGCGCAAGT GCCTGCTGA 300
GGCGGCTAC AAGGGCCAG TTGTTTCGT GGACACTTC ATCGCTGTAA TCAACAACCC 360
TGGTCTATGT GACCTATCAG ACTACATGGC TGTCACGCC CACCCATACT TGACTTCCA 420
CACTTCTGCT GCTATGGCCG GCGCTTGGT TTTCACCCAG ATCCAGAGAG TCTGGAGGC 480
CTGCAACGGT AACAAGAAAG TTGTCATCAC CGAGACCGC TGGCTACTC AGGTCAGAC 540
TTACGGCAAG GCCATTCCAT CCAAGCCAA CCAGAAGATG GCGTTGGAAT CTATCAGGC 600
CACTTGUGT GATAGCGCTA TCCTATTAC TGCTTTCGAC GACTACTGA AGCCAGATG 660
GCGCTACGGT GTCGAGAAGT TCTGGGTAT GCTATAAGT GCGTGTGCT TCTTTATGAC 720

CTGTCTC

727

(2) INFORMATION FOR SEQ ID NO:887:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1555RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:887

25	GATCATACAC GCATTGCAGG TATACATTAT AGTGTTCATA ATTATGGGAT TGCAAATAGA	60
	ATGGGGCCCT TACCGTAGTA CTGTCTTGGT AATGCAGGGA CGCTCAGGCT TAAGAAGCTT	120
30	TTTGTCTCC GTGTATTACT AACAAAATAA TTTCCTGAG CACAGGGAGT AGAGATGAAT	180
	TACATAATCC ATATGGACAC CTGTCACTT TCCAGGACA TTAACATTTC CTTATGAATG	240
35	CCCAATAATG GTGCCTAAAT GATGTGCTTG GTGTAATGCG CATTATAAAA TGTATGTGGA	300
	TTATATATTG TTGTAGCAT CTAGTAAAC CATGGTAGCG AGGTCTTTGG CCATACCTT	360
40	CTGAAGAGAG ACATAGCAAC AGTGTCTTGT GCAGACAGTC TGCCGTGAA TGTTGCCCTG	420
	AAGTAACCAT GAGTACCAAG ACTCTCCTTA ATGAAGCCAG AGCGTCCAGA TTTCGTGAAT	480
45	AGTGGGATCG ACTTGAACCA CTCGACATCT TCTGGCCTAA AGAACAATATA GGGCACTGTG	540
	ACGACGCCCT TGTGGAACCT GAATGGATGG GCAGTTAATA TGATTCTCTT GGCCAATATC	600
50	CGTGTGTGGT CTGCGTTCAG GAACTGCGG TGGCCACGA ACGTCAGGCC CTTTGGATCA	660
	GAAGGGTTT CTTTGAAGTA GATGGCCGGT GACTGGGTCA GGTCCAAGGG AA	712

(2) INFORMATION FOR SEQ ID NO:888:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 689 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1555UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:888:

GATCTGGGAA ACAAGCATTTC CAACCTAGTTC GGAATGGCTG GCAATTAGCA GCTGCGGCAA	60
GGCAGATAAA GCTAACTGTG GCATAGTTTC CGTGAGTTTT GATTGGTTTT CTCAAGCAGG	120
AATACTTTGC TGGCCGCCAC GGNCGCCGTT TTTATACTGT CAGGCCAGCC CGCGGCTGTC	180
CGGTAATGC CTGGCAGACC CGCTCTAGGG CACGCCGAAT CGCCCGTGAC AACGCTGCC	240
GCCGCAAGAT GAGCACTTAA AGGCGCGCA GCTCCGCTA GACAACTGA TGGTAACTC	300
GTATTGTAAT ACTTAACTTA TACAGGGTTT ATTGATTATA TTACTCAGAA ACTGCCGTGA	360
GACCCACAGC CCGCCCGCCG AATTGTGTAC AGTAGGGGC AGCGGGCCGC CCGCCGCTCT	420
TAACGGTACT TGTGAAACC AATGTGTGTG GCTTCTCTC TGAAGCACTG ACGGCAGATG	480
TTCAAGCCGT ACTTCTGAT CAAACCAGAG TCGAAGCC ACACGGGCA CTGGCGGGAG	540
CCCTACCGT AGTTCTTGG GTGGGAGAAC CAAAGTTTT CTGAGGCAT CTGTCTGCA	600
ATGGTTAGT ACTCTGTCTG ACCGCTTGA AACGCTCCG CCTCGTTGA GCTGCCACA	660
CGCTGGCGT CTGGCGGTC CTCATTGCC	689

(2) INFORMATION FOR SEQ ID NO:889:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 700 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1556RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:889:

GATCAACCAG TCGGCCGAGT CCTATACGAC CGGCATCAG CTGGTGTTCG AACTTCTGG 60
TGACCCCTCG ACGTACCTGC CTAAGGATAG TTTGCCGCCA GAACACCCTG ATGAGGGCTT 120
CAGGAGTGCT TCTGGGTCCG AGCTGCAGCG CCGCTTTGCA TTCAAGTGTC AAAATCCAG 180
AGTCACCCTC GTAAATGACT TCACGGTAGA CGTATACCCG GCTCAACTT TCAGCTGCT 240
CAATGATAAT ATCTGCTTGT GTTTTGATAT TCTGAGAAGG CAGAAGTGGT GGCACACCGT 300
CTTATATCTT ATTTCCCAAC TTTTGCTGCA TCAAGGCCAG GATTCTGGG TAGGAGACGC 360
CCAGCACCC GCAGCCCAAC CCCCCTCA CCGCCGCCA TCAAGCAACA AGGGCTGTG 420
CCAGCAAGT GCGGCCGAGT CAGCCACGT AGGGGACGAA AATATGCACC AACTTACCTT 480
AACGGAAATT ATGAACAAGT CTGTGATTCC CGAAGATGAC CGATGATGA TGACCGCAIT 540
GAGCTCTATG TTAACGAGAA CTACGTCTAT CTGGGGACCA GGAGGGTTGC AGCTTCTATA 600
ACGATCCGAT TGACAGGTGG GAGCGTTTG TAGAGTCACT AAGACAGATG CTTACGTAGG 660
TATATAATTC TCATCTCAG CCTGGTATGT ATGCGCTTGT 700

(2) INFORMATION FOR SEQ ID NO:890:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1556UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:890:

20	GATCCGAATA ACGTCCACAT AAGGAGAGA CTAGAGGCTT TGA CTGCCA GCTAGCCAAC	60
	CCAGGGGCCC AGCAGCCTCA GCAGCAGCCT CAACAGCAAC AGATGCAACA GCCTAGAGGG	120
25	CCAGCACCCA TTATGTTGCA GCCAACATTG CAGCAGCAAG ACCAAACAAA TCCGTTGAAT	180
	AACAAACCTG CGTCTACCG GTCTCTCCC CACCGAGTTG CGGTTGCCGG AACAGAGTCC	240
30	GCAGGCCACA CACCAATGTC AGGACGGCCT CAGCCGTTGC AGCAGTTGAA CAATAACGGA	300
	AGTATCTTGG AACCGTCATT GTTCCCGCAA AAGAGGCCTA TGGAGGGTGG AATGGATACA	360
35	TTGGTAAATG CCATTTGCA GCAGGAGTTG CAGCAACATC AGAAGAAACA TATGCTTTCT	420
	CAGAACCATC CTAGTTTGCC CCTGGCTACA GGACAGCCGC AGCAGTTACC ACCCGATGCC	480
40	GCTCCCATAA TACCGCCCGA AAAGAAAGGT GCGCTCTCC CCCAGTTTCA GAAAAC TGAA	540
	CCAGAGCATG CGCAAAAAG ACTGAAGCAC GAGCAGAATA ACGTTTAAGA GCAACCGGTC	600
45	CGGTCTCGAA TATACCTTGG ATTACGCACC CAGCTTCCAT GGAACATTCT GGTCGGGAG	660
	ATCAGAATCA CATCTATCT GGCCTTCAG TCACGCAAC CCAAGTGTTA CTCGGTA	718

(2) INFORMATION FOR SEQ ID NO:891:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1557RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:891:

20

GATCAGGCGA GACATTGCGT AGAAATATCA ATTGGTTTCA GAGGAGATCT GTCTCCTGGT 60

CATTTGTAGAG AAGCGGCCAG ATATAATTGT CCAAAGTGAA CTGCTCTTTT TGAGAAAACA 120

CGCTTTCATA CACAGCGTCC GACTTTTGGG CTAGACCATA AGCAAGGTCT ATAACCTCCG 180

25

TGGCAGTATA ATTCCAGACC GCGGGTGGTT GCGCGGGAC AAGGGACTCC CAGTACCCAA 240

GTAAATCCTT CGTCATTGAG CTTTTTTAAC ACAGAGCCAA CTAAGATCGA CATGGTAAAC 300

30

GACGGATTGA MTTTTGTACC ATTTTTATAG GAGACCAGAT ACATTTACAG AAGCACCAAC 360

CGCAATCGTT TTAATCGGTG CAATCAGTGC CATTCTTGCA GCTGGGTCCA AACTCTAGAT 420

35

TTACAAACCC CGCAGCAATT AGCTAGTGTT GAACCAGCGA ACATGTAAGG AGTTTCATTT 480

CCCCACACTA TTGAAACTA CTGCGGTGAA CGCAGGTGGG GCGCATTAA CGCCATATAA 540

40

CTGTGGGGTT TGATAACAAT TATCTCATAT TGTCTTTTTT ACGCACAAAT ACATCCACTC 600

ATAGAGAGCA TTACGCCAAT GCAGTCAAAAT ATAACGGAGA ATTTGCATAT CAGTACGTGG 660

45

AATCGCAGCA GTTCTGTGTA TTTTACTAAT GATAACGGCC GCAGCATAAG GGCTGTGTTT 720

(2) INFORMATION FOR SEQ ID NO:892:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs

(B) TYPE: nucleic acid

55

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1557UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:892:

GATCGCGGA TTTGGGCACC ACAGGCTAGT GTGGCCGCAT CAAATGATGG CACACACGG	60
ACGTGGGTAC TCAGCCCCCT TATTTGATTT GAAGAACAGA TTGATTAGGT CTGATCCTAT	120
AGCTCTGGGC AAAGCGGGGC GCCTTGGGCG CTGTGTGGCC GCGAAGTATC GCTTAGGAAA	180
ATGCTGGTGA ATGTATATTA TACGCTGACG GGAGCATTC AGTCAGGTGT CATGTATGA	240
CTTGCCCTGG ATTAACATAT GCAGCAGCCA TCTGATGCTT ATGCACATCA ACTAGCACAG	300
CAGCCATATG ATGCTTATTC ATACGGGCGG CCTATCGCCA TCTTCTTCAT ATAAAGGCAG	360
TGTTGTACAG ATAGGTGCAT TGTCCTCTGA ATTCCAAAAG CTCATCGCGA GTGCAGATGA	420
AAGATCTCGC TTCTTTGGTC CCGCGCGAGG CGGCACCATC GTGGAATTTC AGTCACAAG	480
ATGTTATTAG TCTTAGCCAT CAATTGATCA ACCAAACCGA GCGGGTTTAC CACAACGTGT	540
TACAAGAAAA GCCACCAACA ATTGACAATT ATATCATGCC TCTAATATAC CATGAGGAGG	600
AAACAGACCT GCTATGGAAC CAGTTGGTGT TTCTCCGCAA TGTTTCGCCC GATCCGGAGA	660
TTGTTGAAGC GTGAAGAAC GCAACATCCA TGCTGACGA CTGGATTATT GGCCTTAGGT	720
CAAAGT	726

(2) INFORMATION FOR SEQ ID NO:893:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 708 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1558RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:893:

GATCTATTTT	GCAGACTTCC	CTTATCTACA	TTATTCTATC	AACTAGAGGC	TGTTACCTT	60
GGAGACCTGC	TGCGTTATC	AGTAGACCT	GGCATGAAA	CTATTCCTC	CTGTGGATT	120
TCAAGGGCCG	TGTAAGGCG	ACCGACCCA	GCATAGATC	TGGGCTCTC	CAGCCATAAG	180
ACCCATCTC	CGGATAAAC	AATTCGGGG	TGATAAGCTG	TTAAGAAGAA	AAGATAACTC	240
CTCCAGGGC	TCACGGGAC	GTCTCCACAC	TCAGTTACGT	TGCGTGAAG	AATCCATATC	300
CAGGTTCCG	AATATTAAC	GGATTCCCTT	TGATGGTGG	CCTGGAAAAT	CAGGCCTTTG	360
AAACGGAGCT	TCCCATCTC	TTAGGATCGA	CTAACCCAG	TCCAACTGCT	GTGACGTGG	420
AACCTTTCC	CACTTCAGTC	TTCAAAGTTC	TCATTTGAAT	ATTTCCTACT	ACCACCAAGA	480
TCTGCACTAG	AGGCCGTTCG	ACCCAGCTTT	ACAGCTAGG	CTTCGTCACT	GACCTCCAG	540
CCTGCCTACT	CGTCAGGGCG	TCATATTTGC	CCTGACGGTG	GAGTATAGGT	AACAGGCTTG	600
AGGCCATCC	ATTTTCAGGG	CTAGTTCATC	GGCCGTGAG	TTGTACACA	CTCCTTAGCG	660
GATTCGACT	TCCATGGCCA	CGTCCGGCT	GTCTAGATGA	ACTAACAC		708

(2) INFORMATION FOR SEQ ID NO:894:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 671 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1558UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:894:

GATCGGGTGG TGTTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG	60
TTCTGGGGGG AGTATGGTCG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCAACCACC	120
AGGAGTGGAG CCTGCGGCTT AATTGACTC AACACGGGG AAACTCACCA GGTCCAGACA	180
CAATAAGGAT TGACAGATTG AGAGCTCTTT CTTGATTTTG TGGTGGTGG TGCATGGCOG	240
TTCTTAGITG GTGGAGTGAT TTGTCTGCTT AATTGCGATA ACGAACGAGA CCTTAACCTA	300
CTAAATAGTG CTGCTAGCAT TTGCTGGTTG CGCACTTCTT AGAGGGACTA TCGGTTTCAA	360
GCGGATGGAA GTTTGAGGCA ATAACAGGTC TGIGATGCC TTAGACGTTT TGGGCGGCAC	420
GCGCGCTACA CTGACGGAGC CAGCGAGTAT AACCTTGGCC GAGAGGTCTG GGTAAATCTTG	480
TGAAACTCCG TCGTCTGGG GATAGAGCAT TGCAATTATT GCTCTTCAAC GAGGAATTCC	540
TAGTAAGGCG AAGTCATCAG CTTCGGTTGA TTAAGTCCCT GCGCTTTGTA CACACCGGCC	600
GTCGCTAGTA CCGATTGAAT GGCTTAATGA GGGCCTCAGG ATCTGCTTAG AGGAGGGGGC	660
AACTCCACCT C	671

(2) INFORMATION FOR SEQ ID NO:895:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 622 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1559RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:895:

10

GATCCAGAAT CCAAGTTGCG TGTTGTTAGC AACCGCGGCC TGCGCAGGTT ACGAAGCAGG	60
CTAAGGAAAA GGGGCTTGA TGCCGAGCAC ATCTCAGAAG TAGTACAACG CATAAAGGAG	120
AAAAGCAAGC CAAGGCTGA AAACAAGACC GTGGGTGAGC GGAATCCCTC ATCCGCTGGG	180
GTGCTGATC CTAAGAAGCG GGTAGTGGAT GTCCCAAACA ACCCGCCAAA CAAAGTATTG	240
CTCGTACAGG ACCTGCCAAC AGACATTACC GAGCAAGAGC TGGTGGATAT ATTTGCAAAC	300
GATAAGTTGC TCCAGGTAAG ACTAGTCCAA GTCCGGCAAC TGGGTTTGT AGACTACGCC	360
GATGTACAGA GCGCTACGGC GGTCAAGAAC AAAGTGGTA CAAATTATGT GATCAAAAAT	420
CAAACAACCA TCATAGGTA TCGGAAGTAC ATAGGGGCGT GGGGATATGG GTTCTTACCA	480
GTTGGTGGGA ACCCGACAGA TCATTTAGGT AACTACATAA TGATAGTATT TACMAGACTC	540
CTTAAGTGC ACGTGCTCG ATGTCATTTC CCAAAGAGGA CTGTTTCAT AGCTGTGAGC	600
AACGACTCTT TGCTGGTCC TT	622

40

(2) INFORMATION FOR SEQ ID NO:896:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 643 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1559UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:896:

5	GATCCGATGA CCGTCATGTT CTTCACAAAG AACAAAGCACA TGGGATGCGA CTTOGGCWC	60
	GGGAACAAC AACAAAGATGA ACTTCGTCTG TGACAACAAG CAGGAGATGA TAGACATCAT	120
10	AGAGACGGTC TTCCGGGGCG CCAGGAGAAA CAAGGGGCTG GTGGTGTCGC CGTATGACTA	180
	CAACTACAAG CGGATACAAT AGAACATTTT TTGCAGCTAG TGTGTGCCA CGATAGAAAG	240
15	TTTATACGCA ACCCGGCACA GCGCGCGGT TCGTTGGCTC CACAGCTGGC GATGGAGCCT	300
	TGGGTAGGGC CCTGCTGGCC ATTATTCCTC TGACTCGACC TTACGCCATAT AGATGGTGTC	360
20	TGGGCTGTTC TGGCGGTGAT AGTGAAAATT TTTTGGCTTT ACGCTCCACC GGGTTCAGGG	420
	CTAGGCAGCA GGATAAGTAC WTAGGTCTTT CTGCTTCAGG CATTATATAA CCTCAAGCGA	480
25	GCTTTTCAGA CCTTTTAGGC CAATATATCT CCAAAGTGTG GGCATCTGGA CTATTAGCA	540
	GGAGGTCTTA TTCCAGCGTC ATCAAGAAAT CTGTGAGAAT AAGAACCATG GCTCAGAGG	600
30	ATGTGCAACT GGCCAGGAAG GCTGTTGAGT TTAACAGGGA GAA	643

(2) INFORMATION FOR SEQ ID NO:897:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 139 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1560RP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:897:

55	GATCGCGCGG AGGTTCTGTA AAAACCTTC ATGCACAAAC CCCACACCAT GCTCCGCTC	60
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GTCTCTTCA AACTCTCTTG CACTAATGGT GCGTCGTCC ACGACTTTAT CATTCCCGTC 120

5 AAACACTAAG TCAGGGATC 139

(2) INFORMATION FOR SEQ ID NO:898:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 139 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1560UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:898:

30 GATCCCTGAC TTAGTGTGTTG ACGGGAATGA TAAAGTCGTG GACGACGGCA CCATTAGTGC 60

GAAGGAGTTT GAAGAGGACG ACCGGGAGCA TGGTGTGGGG TTTGTGCATG GAAGGTTTTT 120

35 ACAGAACCTC CCGCGGATC 139

(2) INFORMATION FOR SEQ ID NO:899:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 688 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1561RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:899:

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5      GATCCAAATA AGCGTCCCGT CCATACAAAT GAACGGTTGA GTGAAGCTAC TTGCTCGGT      60
      CCGGTATGAT TACTGGCACC AGGCTCTGGA TGACCCCGGG GGAGATGGCG CTGCTGCTAC      120
10     GGCAGCCAAT ATATACATCT TCTATAGGTC TAATTCATGT CCGCTTTTTA AAAAATGGCT      180
      TCGTCAATT TGTATGTAGT AGGCTATGTA ACGGCTCAGT CGGTGGACTC GCGAAGCGT      240
15     TCTGGATGG AAGCAAAGAG CTTTTCGAAC TCTGGGTGGA CCTCGCGCTC GCCGCGGCTG      300
      GGCTCGAAGA ACTTGGAGGA CGAAACGGCG TGTTTCACGT CGCGGGTTGC CTCGACAGC      360
20     ACGGCCCCAGT TGGCGCCGTT GGACACGCTC TTTTGTGCTT CGTGAAGTA GGACACAAAC      420
      GCTTTCATCA TATGTAGGT CTTCAGATG GGCAGAAATG CGTGTAGGT CGAGTAACCG      480
25     TTCTGCTGCA AGAAGTCTTC TTGATTAGC GTGCGACAT CCACTACGAT CTTGTCTTTG      540
      TCAGAGAGCG CGACTTACC GACCAGCTGA ACAACTTGCT CCAATTCCTC GCGTTGGAG      600
30     AGGATCTCTT TGATACGGTC TCTCAGGACT GCGAACCGGG GTAATTGCTA TCATAGTATT      660
      TGTTTAGGAC GTTGGTGTTC CTTGAGT      688

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35 (2) INFORMATION FOR SEQ ID NO:900:

(i) SEQUENCE CHARACTERISTICS:

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40     (A) LENGTH: 711 base pairs
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

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45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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50     (A) ORGANISM: PAG1561UP

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55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:900:

GATCGCAGTC TGTAGTGTCT GGTACTGGAG TCTTGACTGC TCTATCCCTC TTGCTGTGTC 60
 5 TAAAAGCGAA GGAGACTCGG TTAATTGTAT GTTTTGCTGA CCTTCTGGTG GCAAAAGGGG 120
 TGGGGCGCGG GGTCGGACAC TATTTTGGAG CGGAATCAGC CTGAGTGTTC TTTTGTGTTT 180
 10 CACCAAGGCG GGTTAACCTG GCGCCAGCGG CTGGCCCGCG AGGTGATGGG CCATGAGCAC 240
 AGCAGGTATC GCGGAATAT GGAGTGTGCG GGGGCGCGCT TATGTAGACC CAGCAGGTC 300
 15 CCCAGCCATC GCGCGAATT GCGCTTTTG TAGAGTCCCG CTAGGCGCGC TGCCGCGGGC 360
 GTCAGCGGCT GTGACACAGA CAAATAAAAT TGGCAAGCG CGAGACACAA GTCCACAAG 420
 20 CCGCCACTGC ACGAAGCTAT GCACGCATTC AAGGAAGACT TACCCCATAC CGTGGGTTTT 480
 GCCCTGACA ATGAGGAGAT CACATTCCCC AACTACGTGC CCACGCATGT GCAATCGTTG 540
 25 CCCCACAGT CCAACGGGAT CCGACAGCTA GTCATAGATA AGCAGAACCA GCGCGTCTC 600
 CCGACATATA ACCGCTACT CGACCGCATG GAGGACGCGC TCGTGCGCTG GCGGCGGCC 660
 30 GCGAGCTCC ACGTGGGCTC CTCGCTAGCA ATCCACGGCA CGCACCGTA C 711

(2) INFORMATION FOR SEQ ID NO:901:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1562RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:901:

55 GATCATTTGA GTGCAAAGGG AGAAGTAGCG CTTTGTGACAG TAGGTGGGT GTGTGGACAT 60

CCTAGGTACT GTTGACATTC ATGTGGGTCA GTCAGATTAC AAGTACACAA AGTCGATATG 120
 5 ACAAGCCACG TGACCATATA TCCAAGACGC CCCCAGGCGC ACGCCTGCTC TGTGCATAGG 180
 ACTGGCTACC TACCAGTTAC AATGGGGTTT GCAACTTAAC TGCTCTAATC CTCACAGCGC 240
 10 GAGTTATATA TGTGCTATAG GGCATGCTCC CGGGGGGCAA TTCAGGGCCA ACGGCCTGCC 300
 ACCATGCCAG AGCAGCCATA CCAAGGCTG CAACAGGATG CGATATCTCG TTCTATATAT 360
 15 ATACAGATAT ATATATATAC TGTAACAAAA TCCTAGCGA TCTGGCTGTG AAAGGCGGT 420
 ACTTAAATCA TATGCTGTC TTCTCAGCC CGATGACA AAGCCGCC ATGTTCCG 480
 20 AAGCTTGGA GCTGGGGGC AGAAGAGCTC AACTGAGTG CCGGCATAT AAAGCGGTC 540
 ATGAAGAGCA TTGTAAATGC GCAAAGCTG AAAAAGCCTG CTGGCAAAG CATCACTGCC 600
 25 AGGAGGAGTT GTAGGAGGCG GCGACCATG TAACTATAGT AGAAGGAGC GTATTGTTGA 660
 AGCAATGGTA CTGGTCGGA TTCGAGTAT ACCAGCAGGA CGGAGAGTG AAGGCCGAAA 720

(2) INFORMATION FOR SEQ ID NO:902:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 592 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1562UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:902:

GATCTGGCGT GCATATATAA CGTATCTGCG CTCACGGAC CTGGTCGGA CTCTTTTAGC 60
 55 CGGCTACTAA CTCTGTAGCT GTTGGGCTG CCGCGGCGC CGCGGGGGA GCTTGGCAGA 120

ATCCGCCGTT GCGTCACGGC CAGTGCCAGC CGAACAGGAC GCGCTTTTCT AGCAGCAGCG 180
 CTTCGCCAGC GGTTCCTTTT TTTTCCAGC TAAGGTGTG TATTTTCTCG CAGAGGGTTA 240
 5 GAAAAGTACA CTTTACATCT GAACACACCA CAAAGTCGTT CTGATTGGAG AGGCACGAAA 300
 CCAAACAATT GAAAGGTATG TTGAGTGGTA AGCAGACGCT ACACTGAGCT GCGCGTCTTT 360
 10 TAGCAGCTGG CGGCCACCG CACTTTCTCT TTTCCCGCTC TGTTCCTTCT TCGCGGCCCC 420
 CTTCGCCCTG ATCTCGAGAG CCGGGGAGCT ACGGCGCGTC CCGGCGCAGC CTGGGCTTCC 480
 15 CAGGCGGCCA GTGTCAGAG CCGTCCGCC ACGGCAGCG GCTTCATGG CCGCTGGCGG 540
 CTCGTGTTAC AGGATCGGT CAGTGCGGT GTGAGGCTAA GCGGTGGCG AG 592
 20

(2) INFORMATION FOR SEQ ID NO:903:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1563RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:903:

GATCCTCGCT ACTTTGACAA CATCAGGAAG GCGCTTCTG CAGGCTTTT CATGCAGGTA 60
 45 GCGAAGAAAC GCTCGGGAGG GAAAGGCTAC ATTACTATCA AAGACAACCA AGACGTGCTC 120
 ATCCACCCCTA GCACGGTCAT TGCCACGAT GCAGAGTGGG TAATCTACAA TGAATTCTG 180
 50 CTGACTACTC AAAACTACAT ACGGACGATC ACCTCCGTCC GTCCTGAGTG GTTGATTGAA 240
 CTCGCACCTG CGTACTATGA CCTTGATAAC TTTCAAAAAG GTGATATCAA GCTCAGTCTG 300
 55

GAACGGATTA AACAAAAGAT GGATCGCATC GAAGAGCTAA GTAAAGAGCA ATCCAAGAAG 360
 5 CATAGACAGA GCGCGCGTA NTTCGTGAGC TTGTTGTAGC TAAATATCTC TCTGATATAG 420
 CATGTACACA ATAATAGGAC TTTTGAGCTG TCCTTCGTTA CTTCGGATTA GCAAATTATC 480
 10 GCAGAAGTTA GCAGGCACCG CCGCCCTTGT TGGTGCCTT GCACGAAAGC AGCTGGTGAT 540
 GTTCGGGCTC GCTAAAAACC CTCATTTGTG CCTATCATAT GCCCAGCGCT ACAGAGTCTT 600
 15 CGCATCATCA TGTTTGAGAA GGACGAGATA CTCCACTTG ATGAGGCCAG GTCCAAAAG 660
 ATAAAGGAGT TCTGAGCCT CTCCTCGGG CTGATCACCG AATCCATCGA AAAGAAAGAA 720
 20 TATGACTCCA TA 732

(2) INFORMATION FOR SEQ ID NO:904:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1563UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:904:

45 GATCGTTTGT CTTCGACGC TGGTACAGGG CTGCGATGCG CGTCTGCGGC TGGCGGTGCA 60
 TATCGGAGAT ATGGCGCGGT GCGCGTACCG CAAAGAATCA GCAAGACACT AGCGTCTGGC 120
 50 ATTCTTTTTC AATGCATTAT TTAGCTTTT TTTTTTTTTT TTTTITAGTA TAGACACAAT 180
 ATAAAGTAGA GTTCGTCATC AGTAGCGCTC GTAAGGTTAG GGGCGCGCTT CACGCCATAG 240
 55 TAGCATCTCC GTCAGACTCC TGGATTGGCG CTGCTCTAT GCCGCGGAT TCGCAACTG 300

CGTAGGGTCT TTGTTAGCG GACTGGTTC CACGGCGGC ATGGGCAGGC CACGAGGAG 360
 5 CTCCGGTAGC AGCCTGTGAC TTGTCTGGCA GCGAGCGGCC TGGTGGGTGC TGAAGAAGC 420
 AGTGGGCGTT GCGACATTGC GCGCGAATT TGCAGGGCTC GTTGATGGGG TGGCCGAAAA 480
 10 AGCAATCTAT GCGCGTGCAC GCAGCGCCCT CGCGGCACAT AATGTGTGAA CGCGCATGGC 540
 GGTACTTACA CGTTTGTTC GTGCACTTGA CGCCGAACCTT ACACTGCTCG AGCGAACGCT 600
 15 CCGCTGGTGC AAACGCACCG GCTTGAAGG ACGTGGCGCA GCAGCAATAG GCTGAACATC 660
 TCGTATCTTG GACAAGGAAG ATGCGCCTTG TCGAGTCTT CTTGTACAG GTTAGGT 717

(2) INFORMATION FOR SEQ ID NO:905:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1565RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:905:

GATCATGT TTTCCCAGA GAGGAACTG GCGTTGAGAG AGCGATGGGC CGTTATACCA 60
 45 CTGAGCCCTA TTAGTTGCTG GATTTGTGTT TCAGCAGCT GCGCATGGGG CCGGATTCCG 120
 TCAAGTGIGA TTCCGCAGAT GTTGGTTTTC GCTGATAAG TGCATAAGGA AGCTGCTCTG 180
 50 TTAGTACATG TCACATAGGA GCCTTCGCA TTGGGCGATG GCATCCAGTG GCGGCTTGT 240
 GCGCGACGG GTATTCCAGT AGCCGTCTGC GAACGTATT CAATCATCTT TGGCCAGCG 300
 55 GTATATAAAG CGCTGATGA GCCTGGATGC AATGGGGTGT AGCTGGGAG ACTGCACGA 360

AGATGTCTAG CAAAGTTTCA TTCCTATTGA ATTGGCAGCC TGGCCATAC CACATTGGA 420
 5 TTTTCTAGC CCAGTCCAAG GGCTACTTTC AGCAGGAGGG TGTGGACATT GCGCTGCTCG 480
 AGCCCAAGAA CCGTCCGAC GTGACGGAGT TGATCGGTGC GGGCAAGGTT GACATGGGCC 540
 10 TAAAGGCGAT GATCCATAAG CTGCCCCTA AGGCACGTGG TTTCOCGGTC ACTTCTGTTC 600
 CATCGCTGCT GGATGAGCCG TTCACCGGG TTCTGTACCT GCGTGGCAAC GGAGTCACAG 660
 15 ATACTTTCAG CTCTCTTCAG GGAAGCG 688

(2) INFORMATION FOR SEQ ID NO:906:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 558 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1565UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:906:

40 GATCCCTTTC ATACAGGTCA ATATTTTATG CAGAGACAGG GGCTGGACGT TGTAAGGTC 60
 TTTCATCCAG ATATGCTAAG AGGCGAAATT TCATGCACGA GTATGATCAC AAAAAATGAC 120
 45 ACAGCCAAAC AAATGCCAT TATTTTATGA GGATCTACAG TGATACAGGA TTGGATTATC 180
 GATGTTCTAT CCACCCCTAT TCATTCATT CTCGCTCCTA CCCCCTATCA GCGGTTCAGT 240
 50 GGAGCTGCAA AGTGCCAGG GAACTGTCTC ACCCAGCTG GCGTCTACGA TCAATTTAAA 300
 AAAGCATTTA AGGATATTTA TGCTGTTTTT AAGCGCTAA AAGACACACA TCGGATTAT 360
 55 GAGGIGATAG TTAAGGTCT TTCTTAAGT GGCGCTATG CTCACTTTAT GGGTATTGAA 420

TTGCAACTTC TGGGCTACAA GCGTCATGTT TGCGCCTTTG GATCAATTGG TATAGGCMAT 480
 5 AAGGACTTTA ACGATTGGGT GGATGATATA TTTCGGTCGG AAGACGTTTC GAGAAGAATC 540
 CCAAATAATG AGATGCCC 558

10 (2) INFORMATION FOR SEQ ID NO:907:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 645 base pairs
 15 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1566RP
 25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:907:

30 GATCGCGAAA CACAACGGC GCGGCGGGT AGCGCGGG GCGCTGCTGC AGGACGTGG 60
 CGACGCGCTC GCGGCGCACT ACGGGTAGG AGTACATCAA CCGGTACGTG GAGGACGAGT 120
 35 GGGTGTTCAA CAACGCGGGC GCGCTATGG GGCAGATGCT GATTCTGCAC GGTCTGTGA 180
 GCGAGTACCT GATTCTGTTC GGCACGGCG TGGCAACGA GGGCACACG GCGGTGCACT 240
 40 TTGCGGATGA CTACTTCAG ATCTGCACG GCGAGCAGAG CGGGCACTG CCACACGGC 300
 TGGACCGGA GGTGTACACG CCGGTATGA CGCATCACCT GCGCATGGC CACGGAAGC 360
 45 AGTACGGAT GCGGTGGGC TCTTTGGC TGGAGCTGGC ACAGGGGTGG ATCCGTGCA 420
 TGCTGCGTT CGGTTTCTG GACACGTTCA ACAGCACT CGACGTGTAC ACTCTGGGC 480
 50 GCACCGTGCA GCTGACACG CCGACATGT TCAAGAACTT GGTGTACAAT TTCAAGTTT 540
 AGCCTAGATA CATAACCACC ACCAATGTCT GCGCAGGCT CGCCCGGAC AGAGCTGCCA 600
 55

GAACCCGACG CTCGGGCAGG TGTACGCCAC GCTGACGGC CACTC

645

(2) INFORMATION FOR SEQ ID NO:908:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 701 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1566UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:908:

GATCCTCAAG TCTACGAAG CCTCGAAGGT GTTTACGACG GCGTTTITGG CTGATGTCAT 60
CACAGCTGAG GCTAAGGGTG ATTTTGAAGC GAAGTCTGCT GTCCAGGTC ACGTGCAACA 120
GGGGGGCCTA CCATGCCAA TCGACAGAAC CAGAGGAAGT CGTCTCGCG TCGTGCGAT 180
CGGCTTCATC GAGGCTAAGC AGGACGTCAT TCGGAAGCC AGGGGAAAAT GAGGAGGCT 240
TTGACTGCGC CGACAAGGC GTCTCTACA CCGCGCGGT CCTCGGCATC ACGGCTCCC 300
AACTGAAGTT CACCTCCATC AGGCAACTCT ACGACCTGGA AACAGAGTTC TCCAAGCGTA 360
TGCCAAAGGT TATCCACTGG GAGCTACCC GCGGATTGC GGACCATTTA GAAGGCGCA 420
AGAGGGTAAC AGTTTAGTGT CTCTGTTTG CCGCTGCCC CACTATATGT ACCACTAGAT 480
ACCAAGATTA TGGATAAACT TAACATGGCA GAGTACACTC TCATCCACCT GCGATGTATA 540
TAATGTGATT TTACTGACGA AAACGTGTTT AAAGCCGTT GCAGGTCGG TCGCAGCTCG 600
TATAAATATC TTGACGCCAC CTCGATCTCC ATTGTGAGG AAGTACCCGT CGAGATACAA 660
TAGTGCCAGC TTGCTAAGGG GTAACTGAC CACTCTACAC A 701

(2) INFORMATION FOR SEQ ID NO:909:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1567RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:909:

GATCAAAATGC CCTTCCTTT CAACAATTTT ACGTACTTTT TCACTCTCTT TTCAAAGTTC	60
TTTTCATCTT TOCATCACTG TACTTGTTTG CTATGGTCT CTGCGCAATA TTTAGCTTTA	120
GATGGAATTT ACCACCCACT TAGAGCTGCA TTCCCAAACA ACTOGACTCG TCGAAAGAAC	180
CTTAGATGGC ACTAGCACCC CGCCAGAGG GGATTCTCAC CCTCTATGAC GTCTGTTC	240
AAGGAACATA GACAGGGACT AGCAACCAAG GTACTTTCTT CAAATTACAA CTGGAGCGC	300
GAAGCGCCA GATTTCAAAT TTGAGCTTTT GCGCTTCAC TCGCGTTAC TAAGGCAATC	360
CCGTTGGTT TCTTTTCTC CGCTTATGA TATGCTTAAG TTCAGCGGGT AATCCTACCT	420
GATTTGAGGT CAAACTTTGG GAATACTATT CGCTGGAAG GCCTTGTTTG TCGTAGGTTT	480
TTCAAGCGCC AGCTCCACTC CACGATCTGG TCGAAACCTA ATACGCAGTG TAGAACTAG	540
CTCAGACCGC AGTCCGCGCA AGTCCGCCC ATGGCCAGCA TTTTCAAGTT AACCTTGTCT	600
TACGACCGAG TATCACTCAT TACCAAACCC GAGGGTTTGA GAAAGGAAAT GACGCTCAA	660
CAGGCATGCC CCTTGGAAT ACCAGAGGAC GCAATGT	697

(2) INFORMATION FOR SEQ ID NO:910:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1567UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:910:

GATCGTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTCGTCTT 60
 ATGCAAAGTC ATTGGGTTTC CCTCTGGGGG CGCATACAAC AACTGCCTAA CCTGAACAGT 120
 CTCATCCTGG GCATCTAGCG ATCCCATGGG TGAGCAGCGG AGGATTTGGT GGATTACTAG 180
 CCAATGGCAA TCCAAACCAA AGAAACCGAC TTGGGGGAAT GCTCAATTGA ATAGCCGGTG 240
 TTTCGACACT GTGATTCTCT GAGTGTAAAC TCCTCTTTGG TTGCGGATAT TAAACCTGTT 300
 CTGTGAAACA TCGGAGCGGT GTTTAGTGGG AAGCAACTAG AGGAACTCAA AGAGTGCTAT 360
 GGCATGGGGG CAGCTGTTCG GAAAGTGTA AACCOCGAGC TCCGGTTCCG TTGACACAGA 420
 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CGTGGTGTGC TTTGGCAATT 480
 TTCCGGTTGT TCTTTAAGAT AGTTATCTGG TTGATCCTGC CAGTAATCAT ATGCTTGTCT 540
 CAAAGATTAA GCCATGCATG TCTAAGTATA AGCAATTTAT ACAGTGAAC TGCGAATGGC 600
 TCATTAAATC AGTTATCGTT TATTGATAG TTCTTTACT ACATGGATAT CTGTGGTAAT 660
 TCTAGAGCTA ATACATGCTT AAAATCTCGA CCTTTTGGAA GAGATGTATT AT 712

(2) INFORMATION FOR SEQ ID NO:911:

(i) SEQUENCE CHARACTERISTICS:

EP 0 866 129 A2

(A) LENGTH: 696 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1568RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:911:

GATCAAGAAA CGGTCGCTAT TAGGTTCCCA TGCAAAGGCG ATGCAGCGGT CCTTAATCTC	60
CACCTTCTCA AATGGAAACT CTCTGGCAGT CAAAGAGCAA ATCTCCATGT TGGTGAAGAT	120
GGTCTTCTTA GACTTGTGT GACGGTCAC CTGTACACAG AGGAAGTCTG CCTGGTCTG	180
CCAATGGAAG GAGACATCAG TAACCTGCAC CAAGTTGATG GTACGCAGAA CACGGCGGTT	240
CGGTAGCTCA ATCAGGACAG CTTTACAGA CTGGTTGTTT GACTCTGGAG TCCAGTATAC	300
CATGACAGTA GATGGTGGGT CGTTGGGTCT GTTTGAGGCC AACTTGATGC CCTTAGGAGC	360
AAAGGAGAAG TCCTGAACAT CCTCGATCTT CATCACTTA CCGCCCAACA GCTGGAAGTT	420
CTTCTCGGTC TGGTACACAG CAATTGGGCC AGGGCCAAGA CGAGCCAGA ACTTGTGTC	480
AAAGGACCAC TTGACCATAG OCCATTGCAG CTGCTGCTGA GCGGCGAGCG CAAAGGTCTT	540
CACGCAGACA CCTGTTGCCA CATCCCATAT ACATAGCTGG TGGCCCCGCG ACTCGGCCCC	600
GAATGGACAA GCCTCGTTAG GTTCATCCGA GACTTCTAGA GGTTCGACG AAAAGGTAAC	660
CAGGTACTTC TGGTCGAGG ACATGGAGAT CGCCTT	696

(2) INFORMATION FOR SEQ ID NO:912:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 697 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1568UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:912:

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GATCATCTAC GTGCCCCATG AGGATAATTA GGAGAAAGAA TCGAAATTG AGCTGAGCTG 60

GTGCTCCGCT TGGGAGACGG ATGGCTTGCA CAAGGGAGGT ACCAAAAGAG CTATTTGATG 120

CAGCGATTGA GTTTCCGAAG AAGGAGACCG GTCAGGAGAG TGATGATGAT TCAAGCGATG 180

25

ACAACGCATC TGGAGGTGAA GAGTCTCAA CAAAGAAGGA TGCTGACGGT GATGTCCAGC 240

TTTCATGATA ACAGCCCCGC ATTATGTGGA GGTTCATTTC ATGACAATTG ACGGATGTTA 300

30

CTAAGTGTAT ATTAAGTTAA TCCACCTATA TAAATTAATA ACATGCAAAG CAATTTAGAA 360

TTTGTCGGAA AGCAGGTAA AGCATGTCTA CTCTCTTAA TCTTTGGCGA AGCTGTACAT 420

TTTCTCTTTC AAGTGAACGA ATTCTATCCA CGCTGGGTC TGATTCTAAT TTCTTACGTT 480

CGCGTCTGT GTACCATTTC CGGTCAGCT CTTCTATCAT TAATTTTGAA TGCTGATCAA 540

40

ATGTATCTGA TTCATCGAG CCTGGGACA CCTGGGATAG ACGTTTGATT CTTCTGTCTT 600

TTTCTTTTAA CAGCAGCTTT ACATGTTCTT CCACTATTGA TGATGTGGCA TTTTGGGATG 660

45

AACATATAAA TAGAATCCA TTTCAGCTGG TTTCTTTC 697

(2) INFORMATION FOR SEQ ID NO:913:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs

(B) TYPE: nucleic acid

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1569RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:913:

5	GATCCGATAT ACGCTGAGTG CTATATTACA AACCATCAAT TTGATGTTAT CTTGGACGTA	60
10	TTGTTGGTTA ACCAGACGAA AGAACTTTG AAAAAGTTGC ATGCCAGTT TGCAACCTG	120
15	GCGACCTGA AGATTATATG CAACCTCCA AGCACAATC TAGTTCTCA TGGTTTCCAC	180
20	AGATTTAGCG TTACAGTGAA GGTTCAGT GCGATACTG GTATAATCTT TGGGAATATA	240
25	GTTTATGAG GTGGACACG CGAAGATGCA CGCTATGTGA TCTTAAATGA TGTCCATGTT	300
30	GCTACAATGG ACTACATTAA GCTGCACTT TGTGATGAAG CTTCCTTCCG CAAGATGTGG	360
35	AATGCATTG AATGGGAGAA CAAATGGTT GTCAAATCTA AGCTACCGAC TCTGCATGAC	420
40	TACTTGAATA AGCTGATGA GGTCAACCAT ATGAATGTCC TGAATCTGA AGAATCATTT	480
45	GCGACCCCG AATGTGTTT CTTAAGCTG AACTTATACT CGAAGTCCAC CTTGGGCGAG	540
50	GATGCTCTGG CTAATTGTG TATCGAGAGA GACCTACTA GTGGTTCCAT CATGGAGAA	600
55	GTTCGATCC GCTCGAAGAC GCAGGGCCTT GCTTTGACC ACGGAGACAG TATTGGGMC	660
	ATGGAAAGGT CC	672

(2) INFORMATION FOR SEQ ID NO:914:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 698 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1569UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:914:

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GATCTGCAAT GCTCTTCAAC AATTTGCTGC AAGCTATTCT CCTGATGACC TTGCCATCTT 60
 GAGTGAGCTT TTTGATTCCA ACAGCAAATC TGAATAGGCC TCTATCTCCT TTAAAAGCAG 120
 CGTCGTGCAT GGGGCTTTGG GTTTACATTG GAAAAAGCCC CAAAGAACAA GGTAATGCAT 180
 GCCAAAAGTA GCGTTTAAATC CACTTCACAT TTAGATATTG TTAGGCAGTG TATCTATACA 240
 AAAAATAACG ACAAATAATA TCTTTTAGAG CTGGTCTTTT AGACTAAAAT AGGGCTCGGT 300
 ATGCAATACC TCAGATGCTA TCTTGATATC CGTGTGGATA TCCTCGATTA AAGCCTCTTT 360
 CGTGGTGTAG TTTAATTGGG GCGGATGTA GCCAAGGAAG CTGAACCTAA TTTTGGGCGC 420
 ATAGAAGTCT TCTTCAAAGT CGTTTAAAT GTGCAACTCA ACGTCTTCT TACTGTGTGT 480
 ATAGAACGGG TTCCATCCTA CCGATAACAC GATTGGAAAG ACTCCACGCT CTGTTTCOGA 540
 CAGCTTGGAG CCAAAGTGT ATATGACCTC GCTCCCATCA TTCTGTGAT GGGACCTCGG 600
 CTCTCTGGTC CATATTAGCC TTAACCGGC CCAGCCAAA TATACTCTG TGGCCATTTC 660
 GTTAACCTCC CTAGGCAATT GTTCTATTGG GAACATTC 698

(2) INFORMATION FOR SEQ ID NO:915:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1570RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:915:

10	GATCCACAAC ACACACAGCT TCGGACTCT TTTTCTCAA GACAGTTCAC CAGTCCAACA	60
	CTTGCAAAAC CATCTGCTAA CGTTTCAACG ATTGGCGAGC AGCAAACCCA GCCAACCGCT	120
15	CTCTCTCAAT CTCATCCTCA GCAACAACAA GGTTCACAAG CTCAGCAGCA GCTACTTCAA	180
	CAACAACAAG GTTCACAAGC TCAGCAGCAG CTACTTCAAC AACAACAACA GCAACCACCA	240
20	CCACCACCAC CACAACCACA GCAACAACA CAACAACCAC AACAACCACA ACAGCAGCAG	300
	CAGCCCCAAC CTCAACCGCA ACTACAACAA CAACAACAGC TTGGTTTACA GCCTCATCAG	360
25	CCACAACCTGG CGCAGGCGCA GCGCAACAA CCACAACCGC AGCAGCAGAC GCAGCAGCAG	420
	ACGCAGCAGC AGCAGCAGCA GCAGCAGCAG CAGCAGCAGC AGCAGACACA GCAGCAGACA	480
30	CAACACCAAC CACAACCACA ATTGAAACCA CAATCACAGC AACCACAACC GGTTCACAG	540
	CAAGTCCAGT CTCAACAACC ACAGCAAGTC CAGTCTCAAC AACAACCACA GCCTCAGCAA	600
35	CTTTCACAGC CTGCCAACA ACAATCGCAA CAACAACAGC AGCAGCAGCA GCAGTCTCAG	660
	CAGCAGAAGC TTCGCCAAGT GCAGCTGC	688

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(2) INFORMATION FOR SEQ ID NO:916:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 714 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1570UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:916:

5 GATCTTGGG CCGCGGGG CCGTGGCTA CGTCTGAG CTGTATGGA ACCGCGAGTT 60
 CTTACAACC ATGATCGTGA ACTCGACCT GGCGACCG CTGTTGGACT ACACCATTC 120
 10 GTGCTGATG GGTATCCATA TTGAGTACAA GCGCCATAAC CCTGAATTGG TGGAGCGGA 180
 GCGTTCAGC GCATACGATG TGCTGACGGT CCGCGGCTG GTCATGAGG TTGCGTGAT 240
 15 GGTGGTCTG GTGACCATC CGATTCTGG ACCTGTTCTA CTGATGTTG TGATGAATGT 300
 AAAGTTTCA TACGACTTCT ACGAGCGGT CTTAATTCTA CCGGACTAA ACCAGGTGCA 360
 20 GCGCGTGAC GGTGTTCTAC AGCATATCTT ACAGTTTGCA TACTTGGGG GTGCTACAC 420
 GGTTTTAAAT TTGTTGCTC TATTCTCAGT CTGGGCTTT GTGTGCTATC CGTTGCAAT 480
 25 CAAAATGTGG GCGACTTCCA ACATCATCCA CTTTACAGG GAAGAAGTG AGTCCATCAC 540
 TGAATGAAAT CATTCATTTA ACATGTCCAT CTATACATAA AGATAGATAT AGCCAGAATC 600
 30 AATACCTGC CCATTAGTAA AGTACCATGC TGTGACACA GCGAATCC GCGCAACACC 660
 GCGCTGTTG GACGAAGGCA ACTTGAACG CAGCAGCAT CCCAGGTAG TCGT 714
 35

(2) INFORMATION FOR SEQ ID NO:917:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 658 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1571RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:917:

5	CCGAGGCGGT AGGCAACACC GTTGGATATC TGCACCTGGC AAAGGTCTTG ACCCGGCAGC	60
	AGAAGCTGCG GCGAACGGGT AGTCCACGCA TACAAGTCGC CCGGGGGTTC GATTGCCAAG	120
10	TTGCAACCCCT CCTCTGCCAG CGGCACATCC CGCAGCCGCT CGCCCTCAA	180
	CGCAACGGGA ACCGGGTGGA GCCAGCGTCC TCGCCAGGC GCGCGCCCCA GTAGTAGAGC	240
15	CCGGGCTCTC CTGGCTGGG CGCGGTACCC GGGATCTGGG GGATCCCGCG CAGCTCCTTC	300
	TTGCGCTTGA TCTCCTTCAG CCGCTCAAGC GTGTTGTGCT CCACCCCGCG GTGCGGCGCT	360
20	AGAATCCAGC CCTTGATCTG CGGCATTGA AGATACACCG TGCTGCTAC TCCGATCCCG	420
	ACGACCACCG CCAGGCCCTG GAACACCGCC ATCAGCTTCT GCATCTTCTC CACCTTGTC	480
25	GCATACTCCT GCTCCAGTTG GCGCGGGGAT TTGTCACTCC ACTGGTAGTC CAGCTTGCTG	540
	CGCTTGGCCT TGTATGTGCC ATGGTTCAGC TGCTCTTGCC ATCATCTGGG GTCATCAAA	600
30	ACGCTGCCCC TTGCGCAACG CCGTTGCTTC CATAGCGAGC GCTCGGCAC TCGCAGCC	658

(2) INFORMATION FOR SEQ ID NO:918:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 657 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1571UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:918:

55	GATCAGTGA TGGGATGAAA ACTCTGACAA ATGCACCGGG AATATATAAG GCATGGAGCT	60
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5 GGGGACTCG CCAGACAGTG CGAGCAGCGA AACAACAACA TCATCCAAAA TGCCAGAG 120
 ACCAGCTAGA TGCTACCGTT ACCAGAAGAA CAAGCCTTAC CCAAAGTCTA GGTACAACAG 180
 AGCTGTGCCA GACTCCAAGA TCAGAATCTA CGACTTGGGT AAGAAGAAGG CCACCGTTGA 240
 10 TGAGTTCCCT CTATGTGTGC ACCTAGTGTG CAACGAGTTG GAGCAGTTGT CCTCCGAGGC 300
 TTTGGAAGGC GCGGTATCT GTGCCAACAA GTACATCACC AAGATGACCG GTAGAGACTC 360
 15 GTTCCACTTG AGAGTCAGAG TGCACCCATT CCACGTCTTG AGAATCAACA AGATGTTGTG 420
 GTGTGCAGGT GCAGACAGAC TGCAGCAGGG TATGAGAGGT GCTGGGGTA AGCTCACCG 480
 20 TTTGGCTGOC CGTGTCGACA TCGGCCAGAT CATCTTCTCC GTCAGAACCA AGGACAACAA 540
 CAAGGACATC GTTGTGAGG CTTTGAGAAG ACCAGATACA AGTTCCAGG TCAGCAGAG 600
 25 ATCATCATGT CCAAGAAGTG GGGTTTCACC AACTTGGACC GTGCOGAGTA CGTCAGA 657

(2) INFORMATION FOR SEQ ID NO:919:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 625 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

 (ii) MOLECULE TYPE: DNA (genomic)

 40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1572RP

 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:919:

 50 GATCTATTAT TAGAGGTAAT ACATTTAAAC TATTATCTAA ATTCTTCTTC TTCTTATTTA 60
 TTCTTAACTT TATCTTATTA GGTAAATTAG GTGAATGTCA TGTTGAAGTA CCAATTATTT 120
 55 TAATAGGTCA AATTGTACA TTTATTTATT TTGCTTATTT CTTAATCTTA GTACCTATTA 180

TTTCTATAAT TGAAAATATT TTATTTTATT TACTAAATAA AAAATAATAA TTAAATAAAT 240

5 AATAATAATA TTCATTAAAT ACTTTAATAT TAATATTTAT ATATTATACT TCTTTATCAT 300

TTAGGAGGGT ACCTCATATT GCTGACTAAC AATAGGGGGG TGAACCTAC GCACCTAAAT 360

10 GATAAGAGTT TATCATTAAA TTATATACTA TATATTATAA GTAAATTATC AAACCATATA 420

TAAGGTATAT ATATTAGAA AGTTTGACTG AGTGGTTTAA AGTGTAAATAT TTGAGCTATT 480

15 ATAAATCTTT ATGATTTTCT AGGTTCGAAT CCTATAACTT TCGTATTAAA TAATTATTTA 540

AAATAATTAA AAATAGTTAA TAATAATGAG AACATGATGT TGGTTCAGAT TAAGCGCTAA 600

20 CTAAGGGACA TTACACATGC CAATC 625

(2) INFORMATION FOR SEQ ID NO:920:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 677 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1572UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:920:

GATCCGTGTA TTTTATTATT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60

45 TTATAAAAAA TAATTAGTGC ATTGTTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120

ATCAACTAAT TGTTATATAT TTATTAAATA TTAATTTTCT TTAATTAGA ATTAGGAACT 180

50 TTATCTATTG GTCTGGGCTG TTTCCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240

ATATTTAATT TTAGATTAAAT AATATATCTT GAGATTTAAT ATTTTAAATA AAATAAATAA 300

55

TTATTCCCTA AATAATATTA ATAACATATC CATATATATC TAATATTTAA ATAATCATAC 360
 5 TAACATATGT TTCGTAGAAA ACCAGCTATT TGCAAATCAG ATTTGACTTT CTCTACTTAC 420
 CATTATTCAT CAGATAATAT TGCTACATTA ACCTGTTCAG TCGTTTTTAT ATTTTATTAT 480
 10 ATTTTAAATA TAATAAATAT ATATTTTAAAT CATTGATAA TAGTAAAGATC ATCTGCTTTC 540
 GGGTTAATTA ATATTAACTA AATTTAATTT ATTTTAATTA ATTTTAACAT TGTTAAATAT 600
 15 TTATATTATT TTTAATATCA TTTTTATTT TAATATTATG CTAATATTAA TTAATTGCTG 660
 ACCCATTTATA CAAAAGG 677

(2) INFORMATION FOR SEQ ID NO:921:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1573RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:921:

GATCCGATG GAAATTATTT TTTTATTGTA ATTATCTTTC TCCAGACAT CCAAGAAGAG 60
 45 TGTCAGAGTG GTGGGCAGAT ATGGCTTAAA CTCTCCTTCC AAAGATTAG AAATAGATTTC 120
 GATAACAGAA ATGATTGTAA TTTCAGTTT AATAAATGGG AAGAACTCTT TAATGACTTC 180
 50 AAATATTTTCG TCAACATATG GCTGATATG TTGCTTCACA ATTGATACCA TAACACCTAA 240
 TTGTTGAAAA TAAACTCAA GTATTGATGG AGGACAGCTA CGCATCACAT TAATCATTC 300
 55 TGGAATAATT TGCTTTAGGA AGGAGACGCA GCGGAGTCCC AATGTTTGA AGATGTGCAT 360

CACTGCCTGT ATGACAGCAG TGTGATGAGA AGATAAAGAA GGATCCTTCA AAATTTTCAT 420
 5 TAGAGTATTG ATCAAGACGG TTGGATAATA TTCTTCATTG GAGGGTGACA TACCTTGCAAT 480
 TAACAAAGCA ACATCTATGG ATGGGGCAAT TTGTTGACG GATATAGGCG TGCTGGATGT 540
 10 TCTTCAACT TCTCTATGTT TATAAGGGTC CAGAGCTCCC AGAATCCCTA TTAGICTAAC 600
 TGTTTCCCTC CTTATGCTTT GGG 623

15 (2) INFORMATION FOR SEQ ID NO:922:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1573UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:922:

GATCSGATAG GACAGCGAGT AGAAGGGGCC CTGTGCGGCT GGCAGGGGCT CGTTGCCAAT 60
 GTAAAAGTCG AGGTCTCTCG TCCCGGCGTT CCCAGCCAGG TTGTTGACA TCAAAGAAGA 120
 40 TGACGTAAAG CCGGTGAACG ACGTCGCGA CGTGTGTGTG CCAAGAATG CAGACCGGCC 180
 AGCGCCCATTA CCGCTCCCGC TCTGGCCCAT ACGCTCATA CTGCTACTCT TGGCGTCTT 240
 45 GGAAGGCTGC GCAGTCGAA TTGCGGTTG GAACACCAT GAGGGGAGT CGTTACCTGC 300
 AAATCCCAAT TTGGTCAATC CTGTACCAAT GTCCATGACA ACAGCAGGAT TATTGAGGTA 360
 50 TGACATGCTG TATTCTGGT CTCAAATGCT TCTGCTAGAC TTGTGTGAGC CTTTGGCTTC 420
 GGATGGCTTG TCACCTACTG GCTTAAGAGT GCTGCGAGTG GAAAAGGGGT CTAATGCGCC 480
 55

TTTCGTTTTA GGTGATCACC ATCACCAACC ACGGTACACC TGACGAAAGG CAACGCGGTG 540
 5 GCTTGTAAG CCAGGAGAGC CCTCGTAGGT ATTCCGCGGA GCCAATTGGT GGCCCTCTGC 600
 GTTCCTGAG CGCTCCTGCT CCATCTGCC TCCTGACTCG TTTATGAACC TTGAAACAG 660
 10 GCATATAGCG ACACGGACTT TCTGCAGGTC TGTAGAGTAG CCCACATCCG GCGAA 715

(2) INFORMATION FOR SEQ ID NO:923:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 602 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1574RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:923:

GATCCGAAG CTGGTCTGTT TCGAATTCGG GATATTTTTA GGAAGTACGT TTGTTCCAAC 60
 35 GAGGTGCTT CCATGCATCT TCGGGGGTTG TTGAGGCAAC ATTTCAGTC TCACATTOC 120
 TGAACAGCTT TGCTATCTAC TAGGAGTTAC TGAAGCTTTT AATGTCGTG AATAAATCTT 180
 40 TTGAGTTAGA TAATTCGCTG CGCTACAGTC TCATGGGTT TTCATTGGCC AACCATCTG 240
 TAACTCTAAT TGAAAGGGAG AAGATCTAT ACAGGAAATT AACAAAGGAG TCTGTGCCAC 300
 45 TAGTTTGGG TGGGGGGTGC GGACATGAGC CTGGGCACAG CGGGTATGTT GGGGAGGGCA 360
 TGTTAACCGC GGCTGTGCA GGAGACATTT TTGGTGGCC GTGACGGCT CAGATTTTGA 420
 50 CTGCAATAAG GATTGCTACA AAGCAAGCAG CTGGAGCATT GCTGATCGTG AAGAACTATA 480
 CTGGCGAGT TCTTCACTTT GGCCTGGCAA CTGAGCGTGC TCGTCTATG GGCATTGATT 540
 55

GCCGCGTGGT TATTGTTGGT GATGACGTAC TGTTGGTCTT ACCAAGGGTG CAGGAATTGG 600

5 AC 602

(2) INFORMATION FOR SEQ ID NO:924:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1574UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:924:

30 GATCAAAAGC GTGAAGCTGG AGCGTAATGA GGAGCAGCCA GTTGTPTTGA TGGACTGGGA 60

CCAGCTGTAC GACGTGTCTT CGAACATAAT GGAAGAATTT ACAAAGGAAA TGGACGAAAT 120

35 AGTGGCAGAG CTCACCAAGT CGTTCAGGT ATGTAGCAAG ATGAACAGC AGGGCGGGCG 180

GGTTACTAAC GCGATGGGTG CAGAAGCAAT TGCTTTGGCA GGAGGGGGCG TTTACCGTGG 240

40 ACTCGCACAG AGGCGCCACC CGGTGGGGG CTGCGGAAAG CTGGATGAAG AGCAAAGAGA 300

CGACCTGGA ACAGAAGCG CGGAGCTCA ATGCATCGGC GGCATCATC AAGAGCAGC 360

45 TCGAAAATTT GACGCAGGA TAGTCCCGGC CGGCATCGT CATGCAATGC CTTGCTCAAC 420

ATTACATGGA TGGGTATTTC TGCTATGTA CAAACATAAT TTACGGAAT TTAGCTTTCT 480

50 TCAAGGCCT GTCTCGGTG TCTGCGCCAT CGGCGCTTC AGTTTCACTC TCCGAGACAC 540

CGGCGTCTGA GTCAAACTCC TCCGCGAGT CATGCTCTTC CGACTCGGC TGGAAATCTT 600

55 CGTCCACAGA CTCATCGTCC TCTGCAGCAG AACCATGTTA AGTCTCAT CTCGCTGTCA 660

GAACCAAGGG CTGTTTGTAG GCGCTGCTGA ATCTCTTTCT CTTCGTTTTT GACGCGGACG 720

5 TT 722

(2) INFORMATION FOR SEQ ID NO:925:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 589 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1575RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:925:

30 GATCCAGTAA ACTTCAGCTC ATCGTGAGCA ACGGAGTCA CCCCACCCAG CGCAGGCGAT 60

ACTCCGGTGG AAATCACTG AGTATATGCA GTACTCTTGG AACCATGGTG AGCAACCGAC 120

35 TCCACCTCAC CACGGGCAGG TGAAAGTCG GTGGATATCA CCTGAGTACG TGCAGGCGAA 180

CTGCCTGCGG AAATCACATC ACTATCAGCA GGTGAAACTC CAGTGGAAAT CGCCTGAGTA 240

40 CGTGCCAGTAG GCGTCGACTC ATTGTGGGCG ACGGATGTCA CCTCACCCCG CGCAGGCGAA 300

CTGCCTGCTG AAATGCATC ACCACGGGCA GGCGAGACTC CAGTGGAAAT CACCTGAGTA 360

45 CGTGCCAGGCG AACTGCCTGC GGAAATCGCA TCACCCAGCG CAGGCGAGAC TCCGGTGGAT 420

ATCAGCTGAG TGCGTGCACT AGGCGTCGAC TCATTGTGGG CGACCGATGT CACCTCACCC 480

50 CGGCAGGCG AGCTTCCAGT GGAAATCACA TCACCCAGCG CAGGCGAACT GCGTGTGGAA 540

ATCACCTGAG TACTTGCACT AGGCCACGAC CCANCGTGG CAACTGACT 589

55 (2) INFORMATION FOR SEQ ID NO:926:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 684 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1575UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:926:

GATCAATAT CAACTAAGGC ACTAGTTTTT GGGTAGCTG CTCAAGCATC ACCGGATGCT 60
 CAGAAGCGTG TAATTAACT ACAATCTGG ACTTCACCAC CCAAATCTGA AACACATTG 120
 CATATACGGC ACAAGCTTC TAGCGTGTAT CAGTOGGAAA CAACAKATAA TATAACTAAA 180
 GATACCGGA TGTTCCTGC AGTGAAGTCA GGCTTTCCOC ATATACAACA GAAAACCAT 240
 TCAGCAGGCT CTGAACCTGA TGACACTGAC TTTCAGAGAA CACAACTAC CAGCACAGGC 300
 CCACTTCCAA CTTCAGOGA ATATGACTCT GCOCTGTGA CAGTTCATGG AGGACTTGAT 360
 ATTTCTCAA GACCACCTTC CTCTAGCTCC ACAGATTTCG ACGAGTATCC AACTGGTACA 420
 ATAACAGAGT CACACAGAG GCTTATAAC GTTAGCCAAC TTCCCGAAA TAATGGGAAC 480
 TCAGCTGCCA CTGTGTGAT TAAGAGAAAC AGTTCGTGTC TCAGCTGCC TGAAGCGTG 540
 ACCACCACC CAATGGTTAA TCRAGCTACA GTACTCAGG CCTGCGCGG AGCGGTAAA 600
 TTAACCGAGA AACAGCATAG TCCGGCATCA TCTTCAGATA TTTCACAGC CAATAAACA 660
 CATTCGAATT CTATTGATCT AAAC 684

(2) INFORMATION FOR SEQ ID NO:927:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1576RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:927:

GATCTTGTG	AGA	CACTCA	ACATCGCGT	AATTGCAGAG	CCCCGGTGA	CCATACCGAT	60
TTTCTTGTA	C	CAATCGTCA	CATAGCTGAA	CGTCTTACA	GGACCTTTGA	ATTCCACAGT	120
TTGGCCTGC	T	GTAGCCAG	CAAACCATTT	GGATACTTA	CGTGCACAT	AAGATTGAC	180
AATGATATC	G	AAATGGCCCT	CGGCAATTT	GTTCGAGATA	GGGTGTAGT	AACGCCTTC	240
TTCTACACCA	T	CCAGCATCA	CTTCGCAGC	TAAATGAAAG	CCAGTAGGTA	TATCAAGAGT	300
TTCCACGCT	T	GAAAGGAGCT	TGAATCTGTA	TATGCAGCA	TTTTTGCTTA	GACGATCCG	360
TTCTTCCAAT	T	CTAATGGCG	TCACCTCATT	TGAAGAATT	GAATCTCTG	TTCTGTATGC	420
TAGTAGCAG	G	CGTGCACCTA	CAAACATTGC	CAAGCTAGA	ATGCCTAGAA	GGTACCATGC	480
GTTCGCCGCT	G	ACCAGGCGA	TAACAAGAAC	GCCCAATGTA	AAGATGCCGC	TGGGGATGAA	540
GATCCCATGA	A	TGGGATCAT	CCAATATCTC	CATACCTCTG	CGTTGGGTCA	TACTAATATT	600
TTGAAAGCTC	G	TCTGTAGCTA	TGTTCTAGTA	AGGATGAGAC	CGTTAATAT	ATGCTTCTCTC	660
CTAGTTCTAT	A	AGCAGCGAC	TCTTTGCAAC	TGGTGAAGTA	TGTTCTAACG	GTCATCATGC	720
ATCTGCCGAA	AA						732

(2) INFORMATION FOR SEQ ID NO:928:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1576UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:928:

GATCAGGCCG GACGGTACT TGCAGGAAGG CCTCAGAAA CCCAAGGGG GCGAGGAGG	60
CTTCTOGAAG TTTTTCACG AGACGGCTC GGGCAAGTTC GTGCGGGCG CCGTGTACGT	120
GGACTTGGAG CCGAAGTGA TCGACGAGGT GCGCAGGGC GCGTACCGG AGTGTGTTCA	180
CCCGAGCAG TTGATCAGG GAAAGGAGGA CGCGGGAAC AACTAGGCG GTGGGCACTA	240
CACGGTGGG CGCGAGCTCT TGGACGATAT CCTAGACCG ATCGCAAGA TCTGGACCA	300
GTGCGAGGG CTCCAGGGCT TCTCTTCAC GCACTGCTT GGCGGTGTA CCGGCTCGG	360
CTTGGGGTGG CTGCTTTTGG AGCAGCTTTC TATOGACTAC GGCAAGAAAT CGAAATTGGA	420
GTTTGCGTG TATCCGGCG CACAGGTGTC CACCTGGTC GTGGAGCCAT ACAACACCGT	480
GTTGACCACC CACACCACAT TGGAGCATGC CGACTGTACG TTCAITGGTG ACAACGAGGC	540
CATCTACGAG ATGTCAAGA AGAACTTGA CATCTGAGA CCTAGCTTTG CGAACTTGAA	600
CAACTTGATC GCCAGGTGG TCTCTGGGT GACCGGTCA TTGCGTTTG ACGGCTCCTT	660
GAACGTGGAC TTGAACGAGT CCAGACCAAC TTGGTGCCAT ATCCAAGAAT CCACTTCCCA	720
TTGG	724

(2) INFORMATION FOR SEQ ID NO:929:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 686 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1577RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:929:

20	GATCCGTTTA GAGAAAAACG GTAGCCCGGT GAAATACGCA TTTGAGTGGC CAGAGCGGCG	60
	CGAGCGGTCC GAAAGGTAGA TTTGTCCAG TGGGAAGTTG ACTCGTTTGC TTATTTGAC	120
25	AATCGACGTC TTCAGCTCC CGTCTTCCAA CCGGGTGAGC TTGTTGAATA AAGCTGTAAA	180
	AACTGGCTGA AGAGCAGTCA GCACCAGATA GAAGAACAGC ATCAGGATAG AGACGTAGCT	240
30	GACGAAGCCA GTGAGAACT TTTCATTAC CTTCACAGC GCATAGGCTG CAGGAGTGGT	300
	AATCATGGAG GAGATCATAA ACACTTTTAG CTGGTCCGTT AGCCATAGCT TGACCGTGA	360
35	CTTGTTGAAC CCGAATTTTT CCTCGAGCAC AAAGTTGTAG TAATAGCTCC CAAACAACCC	420
	CTGCCACCAG TTCAGCTGTA GGTAGACGAT CAAAAAGTAC ACGGACTGG AGATGGTGA	480
40	TACTGGCACC AGCATGGCGG GCATGGGCTG ACCTACCGCC ACTCTAGGT TCACATCCG	540
	TGGCAGCCAG TGTACTTAA TCATTACCAG ATTTAGTCCC AGGAACACCA GATCTCTAAC	600
45	CATACGGTAG CGTTACTTGG CCGCTCGTA CGCTCGGTC TTTGCATTG TTCTTTATC	660
	AATAACGCC TOCAGTTGC TGGTA	686

(2) INFORMATION FOR SEQ ID NO:930:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1577UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:930:

GATCTTCGAC ACTATGTAGG CCGCGTAGAT GAGCAACATT ACCACGCAGT CCAGGAACGA	60
CACAGCGTTC ATCAGGCATA CGTAGCGGAT AATGCAGACG GCCAGCATCG CAAACAGTAG	120
GTCACGATG ATCGAATGGC GCTCCGCGGC GCTAAGATTT ACCCAGCGAG ACCTCATCAC	180
CATAAATATC GCGCCCTGTA CCACACAGAT GATAACGCG CAGGCGGCCA GCACTTCACC	240
CACAGACAAG GCGCGGCGAT TGTTCGCGGC GTTCACGAC ATCAGACTGG AGAACAAGTC	300
GCGCGACGAA TTGCACCATG CCAGTAGGAT GGCTGCCAGA ATGCCCTTGT GCGGCCGGTT	360
CGTTGGCTC GTCAAGGTCA CCACTATGGG ACATAAATAA TCAGAAGCGG AAACGCCACG	420
CAACACAAAA CACACGCTCA GATGTAGAAC CGTCAGCACC ACGAACCAG GGATAGCTTG	480
TTGTCTCGT ATAGATACAC TGGATGTGTG ATCGTGCCC ATGTACTTGG TGCATGGTCC	540
ATCCTTGCAC TCTGCCTTTC CAGGTACTTG GTAATAGTAG TGGTAGCCAC CGCAACACTG	600
GTCAAAAAGC ACACCTRAAA CCTCAATATG TAAGGCGTGC GAATGGTAGA TCGTTATTT	660
AAAATGCAGT GCTTGAGATG AACAGATAGA CTGGTGCCC	699

(2) INFORMATION FOR SEQ ID NO:931:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1578RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:931:

GATCATCCTG CTGGAGTTG AAGTCATCTT GCGATTCCTT CATGCATAGG AGTTGGTTAG	60
CACCAAACAT AGGATTCATT CTCAAGTCCA CCTGCGTTAA CGTTCGTGC CTATACTTTA	120
AGTAGTOGAT GAACTGTCTT GTAGAGTGAG CCAGTTTATT AAAATTAAAC CTGTGGGAAC	180
TATCCCGGTC TAGTOGGATG AGATTATCGG TAATCTTATT CACGACACCC CAGTCCTGGT	240
TOGATAGACG CTGGCTACCC GCAGCCTCAT TCCGCAACTC CTTATOGATA TCTATTCCAA	300
GGATCTCGTC CAGGAGAATG CTACCATTCTT TATCGTTCTG AATGAACCTG CCTCTACATC	360
GAGCAAAGCA TAGGTGTTTA ATGTGGATAT CCGCTAGATC GAACCCAGAC TCATGCGCGA	420
CTTCTCTGT ATCTAGCCCA AAACCATGCA TTAGCAGCTT CAAGACAATC GCCACAAGCT	480
GCGATTGTTT CCATGTCTTG CAAGGAAGCT TTACGACATA TGGGATTGGG TCATCGGGGC	540
CATGTTCAAA GTTTTGACGC ATTAGCACGC AGCTAGTGGG TGGGGTGAAC ACGATCCTAG	600
TAAGGACCGC GACGAACTCA ACCTTCTGTG CTACAATATC ATCACTGGAG AAAAACCTCA	660
GAAGTTCCGC GG	672

(2) INFORMATION FOR SEQ ID NO:932:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 737 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1578UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:932:

GATCTTTTTC	TGGTTCCTTT	CCTTTAAACA	GAATAATAAT	TGAACAGGTA	CCGTATTATC	60
GGCGCATGCT	AAGTGCACCT	TTGACCGAGA	CACTTTAGTG	ATATTTATTT	TGGTAGTGIG	120
CTGTATAAG	TGGGCCACGA	CTTCTTTGCC	ATTAATCTCG	TCCTTGGCGA	AGCCGTCTTG	180
GTAGCATCCT	AACGCACTCA	TTAATGCCAA	TGATCGGGG	TTGATCGCCT	CACGCCATC	240
CGAAACAACA	CAGACACATA	TCCGTTTCCA	GGCATCGGG	CCCCAATAT	CAGAACGCTT	300
CCGTCGAGTG	AAATATTTTA	TGTGTCCAT	GACGCCTTTT	AATGTCGGTG	CCAATAATAT	360
GTGTTTTTCG	TTGTACATCG	TTATCACCAT	CATGATTTCT	GTCTACGG	GTACAGGGTA	420
TTTTAATTGT	CTCACGGTAA	AGTTCTTTAG	CTGAAACTCA	GCTGGCTCAC	AGGTGACAGC	480
CTGATATCGC	ATGAATTTGT	ATTGCTTCGT	GAAGTAATCT	TCTCTCATGC	CACGTGGGTA	540
CTGCGACACT	AGCTGTTTAC	TGACTGGACA	ATCAAAGATA	AAGTTTCTCT	GATATAGCTT	600
GAACTTTTCGT	AATACAATGC	GATTTTTTAGG	CTGTTTGAC	TGCGGTAAAC	CACTCAGAAG	660
CCGTTCTGAG	CTGAGATCGC	TGCAGTCGCC	AGAACCTTCG	GAACCGGAGT	ATGCGGATTA	720
GGCGCTACGC	GAGAGAT					737

(2) INFORMATION FOR SEQ ID NO:933:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 663 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1579RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:933:

10 GATOGAAATA CCACTGATCG ACCGGGGTGC CTCGCTTTGC AGCTGCTCCG AGAGCCGCTC 60
 TCCGAGATAC CCGCGAGAGC ATGCCTTTTC CAACACCATC TTCTCGTACC GTTCGGGAAG 120
 15 TGACCCCTACT ATACTTATGA TAATGACCTT CTGTGCTTTC AGAGTGCCCT CTGTTTCCTT 180
 CTCAGGTAA AGGTGGGATT CTCGGCCAGG CTCGTAGTAG CCACGGACCG CAGAGGCAAT 240
 20 CCGGTGCTC CACGGCATCG GATGGAAGTA CTCACCGGA GAGTGGCCCG GCAGAAGCAC 300
 CGAGTTGTTC ACCGCCAACA CGTACTCCGA CTGGTGCTCC AGCGACACA CCTCGAGCGG 360
 25 ATACTCTTTC AGCGGCAACT GGCAGTTCTG TGACCCGGTG TTGCAACGC TCAGCTGGCC 420
 CTGACCAGC CCCCAGACC CCGCATGTC TCCATGTCC GGCAGTACT CCGTGTCCA 480
 30 GCACCAGGAG TCATTTCCCC GCGCTACGC CTGCAGGCC TCCTGCTCCA GCGTATGCAC 540
 CTGCTTCCA GTACGTGAT GGTACTCGT GCTCTGGTGG ATCAGCAGCC CGTCTCGGG 600
 35 GGTCTGCCAG AACGGCATCC ATCCACCAC GCTTTGTAGA AACGAGGTGG TGGGGGCCCT 660
 GCA 663

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(2) INFORMATION FOR SEQ ID NO:934:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 720 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1579UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:934:

5	GATGGCACGG ACCGGGAGAC GAGTTCTCTT GGTTCGTGTC ATTGGCGATG GTAGGCGCGC	60
	CTGTTGCAAG TGACCTGGGG ACAGCAGACT TGGGTCAAA ATCACCTTA GCTCAGCTG	120
10	TGATGACATC AGCCAAAACG GCGTCCGTG AACACCTTC GAGGCGTTC TGGACTTGAG	180
	GATCAGTTTA CGTGCTTAC CCTTCCGTG CGCTTTTTC AAGGACTGC GGAGGTCTC	240
15	AATATCTTGT GAGAGCTGTT CCAGCGAGAT ACCCTCTCT GGAACTAGG AAACCTGTGC	300
	GCCACCGCC AAGGCAGCAT GCGTTGCCAG ATAGCCTGAG TTACCACCT GGACATGAC	360
20	GACAAAGACC CCGCTCTTG TGGAGCTGC CGACTGCTT ACAACATCAC AGTACTCCAT	420
	TAGGCATTG AGAGCTGTG CTGAACGAG CGAATACTCA CTGCCCGGA CGTTATTGGA	480
25	AAGTGTGCT GGAATGAGTA CCATTGGTAT TCTGAAAGCT GGGTAGTTCT CACGGGCCCC	540
	CTCCAATTGA TGCAAGGAGA CGAAGGCTG AACCCACCA CAATAACCA GCGTCAAAC	600
30	TTGTACTTTT GGAAGTAGTA GGCAATCATG CCAATGTCTG CATCTTCTGG GACAGTTCTG	660
	TTGGTTCCCA ACTCGGAACA CCGCGAGATT GCCAGCCAAG CATATCTTTC CAGTTCAACG	720
35		

(2) INFORMATION FOR SEQ ID NO:935:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 718 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
45	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1580RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:935:

5	GATCCGTGTC GACAAGTTGG TCACGTATAT ATGGCGCGTG TTGAGCGCG TCTGCGTGT	60
	CCCGCCGAAC CAGCAGCGCT GCCATCTOGA AGACATCATG CTCTTGCGTG TGTACTGCGG	120
10	CGAGGCGCGG GGGCAACCGC TCTTGCTCAT GGCGATCGTT CAGGCGGTGG CGGCACGCTA	180
	CGGGGTGCAG ACCCTCTCTT GCGAGCAGGT ATTGATCATC ATTGACCGCA AGTTGCGCGG	240
15	CGGACAGTCA TACTTGATGA TCCCGCTGCG AGGGAACGCA AAGCGCGGCA TCTTCAAGCG	300
	GCGGCGCTTG CTGACACTA TGCGGCACAC AATACCCAAC ATTGCCGACC CGCGGAGCCT	360
20	GGCGCTGCGC CGGTTCCTCA CTCGCTCAC GAAGCGCGG GGTGCTGAGA AAATCTTCAA	420
	AGACTGGTCC ATCTACTGCG ACAAATCCAT ATGGCGGACG ATCCCTGATC ACTGGCCCAA	480
25	TGGCATCTTG CGCTACCTCC CGCACTCTTG CACGCGGATG GACGAATCCA TCTTTGAGTA	540
	TTTCATGCTC TATTGGAAAA CGCAACAGC AAACCACTCC ACGAACAACA TTTTCCACAC	600
30	CGTTCTCTTC AAGCAATTGG AAACGATCTT GGTCAAGAGT ATCCCGGCGA CGCATCCACT	660
	TTGTGATTG CCGGGAGCAG CTCATGGACT CCATTATOGA GATGTCTTTC GCGAGTCC	718

(2) INFORMATION FOR SEQ ID NO:936:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1580UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:936:

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5      GATCCTTTTC ACCAACAGCT GTCTGGGCCA GCTGGGGCCT GGGATGAACT ACAACGAGGC      60
      AGTGAAAGCG CTGACGAACC TGGCGCTGGA CAGCTTTACA CTGCCGGGGG ACGGTGGGGT      120
10     TTCGCTGAA CAACGTGTAC TCTGTGCCG TAGAAGACG TGCTCAGATG GAGCTGCTGA      180
      AGGGGTACCT GCAGCAGTTG CGGCAGGAGC TGGCCACGGG GCTGCTGGAC CGTGTGTATG      240
15     GGGCGGAAAA GGCACAGCCC TGAAGTTCT GCGTGGCCTT CACAAGGGGC AAGTTTATGA      300
      ACAAGGGCCT GTAAGGGGAA ATAGGTACGT AGCTGGCGGC GCCAGGAAGT ATTTACAAAG      360
20     TTGGCTGTAT CGCTACGAGG TTTTGGTGGC GTGTGCCCTG TTGGAGGGCA CGAGGAGTTC      420
      AACGGCGGAA GCTGGAGCT GTCCCGGTC TTTCACGATC GCGTTCAGT CAATGCTGAG      480
25     GTCGGTGTTT TTGGGCGGGA AGCCTTGGAT CCGGCGCTGC AGGTCTGTCA GCGCCTGGAG      540
      GACAGCTCA TAGTCTGCAT CTCTTTTAC GCGCTCTTTG TATGTTTGA AGGACTGAAC      600
30     GATGTCTTCG ATACCGGGCT CGACTCTGCT GATCATCTCG ATGGGCTGGC GCAACAAC TG      660
      ATCGCGGTG CTGTTGGCGT CCGTCCCTA ATCATCTGCT GGATT      705

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(2) INFORMATION FOR SEQ ID NO:937:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 665 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1581RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:937:

GACCTTAATT TAAAATTTTA ATTAACTATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 5 TATAATCTTA AAATCATAGG TAAAAATACT TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 10 ATTTTATTA TTTAATIGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTIAA TTTTAATATT 300
 15 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 20 TTTCATAATA TTTATTTTIA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480
 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 25 TAATAATTIA TTATCTAAAG TATATAAATT AATTAATCT TTTTATTAT TATTCTAAAT 600
 TATTATTAAT TAGTAAATTA TATTTATTIA TTTTATTAAC ATAATTTTTG ATAATAATAT 660
 30 ATCAT 665

(2) INFORMATION FOR SEQ ID NO:938:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1581UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:938:

55 GATCAATTAA TAAATGTTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60

EP 0 866 129 A2

CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120
 5 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATTCAT TTAATACTCC TCTAATTCAA 180
 TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240
 10 GTAAAACATA TGTTTTAGGG ACATATACTCT TCAGTTCAAA ACTGAATATC TACATATTAT 300
 ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360
 15 GGTGTGTACC TTAGCTCTCT AATTAAAGIT ATAAAATTAT CTTAACATAAT AAAAATAATT 420
 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480
 20 GTTATATTTA AATAGATCAA AATTCAACA ATTTCATTT CATTTAGTAC TACCATCACC 540
 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACCTTAG CTTTTACTAT 600
 25 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660
 AATAACTTTA TGATTTAGAG ATATTGTAGC TGAACCTACT TATTTAGGTG ATCATACTTT 720
 30 AACTGTAAGA AA 732

(2) INFORMATION FOR SEQ ID NO:939:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 694 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1582RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:939:

GATCTCAACA CGTTCGTTGG AGAAGTGTGC AACACACGAG TACGTAGTAC CCAAATCAAT 60
 55

ACCGACTGAT TTAGACATGA TCACTGATTA GAAAACGAAA TCTCTGGTTT TCGGATAACC 120
 5 GGGAGAAATA CCAATGGTGA TAACCGTACG TAAGGCCAGA GGTACAAAGC TACTCCAATC 180
 TGAAGCTACA CACGCCCAAC CCTTTTATAC AATTTCAATT TTTTCTCTCC CAAACGAACA 240
 10 TGGCAGATAG TAAGAGTCTT CGAGCCCAAT GCCTGTTCGG TTTTTTTTTG TTCTGGAAAA 300
 TTCTACCATA ACGTATGTGG CCGTGA AAA CTGATCAAAC GGTCTCGAA GATCTTAGAA 360
 15 TAGAGGCTCC GACAGAAAGG GGGAGGCCGA TTCAAAAAG ACGCATGAG CCTCACTCGT 420
 GCTTOGAGGC GGGAGAGCC ATAGGCTTCT TTCCAGCGC CACGACGGT TTCTGGAAAG 480
 20 GAGCGAAAAC AGAGAATGAA CCGAGGCGGT TGATCTGCAT CTGGACTTG GCGTAGCCCC 540
 GTTTCAACTG AGCGGAATG CGTGGATGCG AAAC TACGCC GTCCGACGC ACCTCCCACT 600
 25 TCCGTACCAC CCGACCATG TTGGCCGATT TTCTAGCGC GCCTTGATGA AAACGAGTA 660
 TAGAGCCAGC ACAATCCAG AGCGCGCGCG ACAA 694

30 (2) INFORMATION FOR SEQ ID NO:940:

(i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

45 (A) ORGANISM: PAG1582UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:940:

GATCTTGTTT TCCGCATCCA GATACTGGTC GAAGCGGAG TTCATCTCGT CTACAATGG 60
 55 CTCCACGAG TCGGTGTTAT CTATGGGTC CCCGAAGCCC GGCGTGCCA CCACGTCAA 120

CTTCACACC ACGCCGTCTT CCTCGATCTC CGTCGTGACG GTCTCAATCT TCACCTTGTT 180
 5 CTGCGCGTCC TTGGCCCGGG ACTCGTCGCC GTCTCAACG TCCTCAAGCT TCAACGGGTT 240
 GAACTGCTCC GCGGTGTGCT CCTTCGCCGT GTATAGCTCC TTGTGAACA ACGTGTGAT 300
 10 CAAGGTGAC TTCCCAACC CCTTGGCGCC CAGCAGAGC AAATTGAGGT TGAACCGCG 360
 CCGGATCGAC TTGCGATGCC ACTGCTTGGG AAGGTTTGCG AACCCACGT ACCCGAGAT 420
 15 CTGCGGTGG ATGATCGCA GGTCTGGCTG GTCTGGCAGC ACCTGGCCCG CCGGAGCTC 480
 GCCACCCAGT GCGGTGCCA CATTCTCTT GTGTCCGA AGGTCAAC CCATCTCTC 540
 20 CTCCTTCAG TTCAATGCC AGCTTGTC CTTCGGCTC GCGTCCCGT TGCTCATTAG 600
 TGGCCCCCG TGCTGGTGT CAGGCTCC GCGTGTGG CACTGTTGGT GTTTGCCAA 660
 25 TCCTCTGCG AGCCTGTAGG TAACATGCTT GTCTGATTT GGTAGT 707

(2) INFORMATION FOR SEQ ID NO:941:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1583RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:941:

50 GATCAATTAC CCTGGGCCA ACCATATTG GATGAATATT TGCAATGTTG CCGATAGGG 60
 TTCCCTCATC GTGTATGTTA TAGACCTTCA CGCTTCATT AAAAGGGCAT GTGATGACTT 120
 55 TCTTCTGTC GGCAGAGAAG GTCAACAAA TTACAGATTG TTCTGTACG GCCAAACTT 180

TATAAACCCCT GAAGTGTGTTT AACACGTCAT ATATGAATAC CTTACGATCG CTGGAAGGGT 240
 5 CAGTGGATGC ACTGGCCAAA TACCGACCAT CTGGTGAGAA TTGGAGGTAC CAGATTTCAT 300
 CTTTATTTTC CGAAAGAGTC TTCACATGAC TGAAATTGAA CATGCACATA GAGCCAACGT 360
 10 TATCTTGAAG CAAGTTATAA GTGGTTTCT CTCCAGAACG GTTTCCTTCG TGGTTGTGAG 420
 GATCGTCGCT GAAGCTTAAC AGGTGCTGG ACCGCTGGAA CTGTATAGCC TGTTTTAACA 480
 15 ACGTAATGAG CCTGCCCCGT GGAACCAAAT CATTOGGGTT GATATATTGT GAAATCTGAT 540
 CAAGGGCCAA TTGCGCGAG GCTGCCAGAG AOCCTCCCA TATTTTGTGT GCTCTGCGG 600
 20 ATTCCGCAGG ACACGTCAA ATAGTGTCA CTGCAGAAGA GCTGTGTCGG GAGTCATAGC 660
 CCACTCTCC TCGGCTCTT CCACCATAGA TATGGTCTGT ACAGCCACAG CGAGTCC 717

(2) INFORMATION FOR SEQ ID NO:942:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1583UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:942:

GATGACTGG AAGTACACGT CCAGCGACCG GTCAAGGCC ATGTCTGGA CGGACTGCTC 60
 50 GAAGGTCTTC ACGAGGTTCT TGGGATGCG GAGCAFTGTT GTCCGGTCTG GGGCGGGCGA 120
 CGCTGCGGAG GGCTCACCGA ATTTGCTTGT GGTGTGCTC ACGTGA CACT TGGGCGGCTG 180
 55 GCGCGCGCGG GCGCGCTTG CCGGAATGG CTGCCCCGCC CTGGCAGCC GTTCTTGCAA 240

TCACATGATT CATGATTCCG CTTTGGGGG GGATCACTGC GCAGCCGTTT TTGCTGCTTT 300
 5 TAGCCTCCCT GACACCTCG GCTGGTCTG GAGCAGGTC CCGCGCGCT GTCCGCTGG 360
 TGGCTGTACG TGTGGGTGA CCGCATTTTG TGGACAGCG GCGAGCATG ACGACGAGCT 420
 10 CCGAGGCTC GCGTTGACG ACAGCCCCCT AAAGGAGTTT CTTTATTG ACGCGCCCC 480
 TCAAACACTA TATATGACG AAGGCAGGAT GGAAGGTAGG CTAAAGCAAG AAAAGACCTC 540
 15 GACCAACGGT ATCGAAGTCT AAAATCTTAG CAGGTACCAG GATGCTTTT GAAGATTTC 600
 ACAAGGGCA ACGCGGAAA GTGAGGAGG CAGTGGACG AATATGTAAG GATTTCGAG 660
 20 TGACGAGGA CAACTCCGC GAGTTGACG CGTACTTCAT CGAATGTTG GAACAG 716

(2) INFORMATION FOR SEQ ID NO:943:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 677 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1584RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:943:

45 GATCCAAAAA GCCTTCGGG CGCGGCACA TTATCACAC CGCTGTGCT TGACGGCTC 60
 GACAATACAT CCTATGACAT GCGTAATCC TCTATGTTG TTCCGACGG GCGCAACGT 120
 50 GCCAGGTCT CGAAGGCTT CCGCGGAGC AAGAGTTCT CCGCCCTTGA AGAGGAGGAG 180
 AAGCATTTA AATGCCAAGA ATGCACCAAG GCCTTCGGC GCAGCGAGCA CTGAAGGC 240
 55 CATATAGCT CTGTGACTC ATCGGATAGG CCGTTTCGT GCACCTATTG TGATAAGAAG 300

TTCAGCGCA GCGACAATCT GTGCGAGCAT CTCAAGACAC ATGCGAAGCA TGGCGATATA 360
 5 AAAGACAGC CACCAACCAC CAAGAAAGC TGACTTTCAC ACATCTATGC GAATACCGA 420
 TGTTGCATTA AGAGATACAT ACAGCGCATA CAAGCTGACA CAACGTCCCG TACGCCAACA 480
 10 GAGGAGATGA TAAATACTAC ATACTCAATA TATCAATACC TCCTACTTTT GGTAATCATA 540
 TATACTGTT TTCTTTGCA CTGTTCTGGT AACGTTGTCA TAGGTTTCCC TGTGCTGCT 600
 15 AGCTGGCCAG GATTCCCTTA ATGGATGAGG TCCGGCGGCG AACCAGACAA AAGTTGGCGA 660
 GCTTAAGATA GTTGGAC 677

(2) INFORMATION FOR SEQ ID NO:944:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1584UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:944:

GATCCATTT TGTCCTCTTC GGCTACCGG ACGGCCAGTA GAGCATCCAG AATAGATGTT 60
 45 CACCAGTAGG CTTGCCAAGT GCTCATTAGT TCGCGTCACA TGGCTGCCCG TGTACATGAC 120
 AGTGACACAC CATGTTGTAT TCATATCGAA GGTGGAAGC CCCTOGATGC GCCCAACGCT 180
 50 CAATCCAATG GACGGAGTTG CATCGGACTG GGTTTTGGTG TGAAGCTTG GAAAGACTAA 240
 TATTCCGAAC CTGAATCATG GGGACGTGGT GATCTTCCGC TCACCCATGA ACCCCAAGAA 300
 55 AGTATACTGC AAGCCATCC AGGTAAGCA GTATGATACG GTGCGCACGC GGTATCCTTA 360

TCCGAAGAGT ACCTGCGAAG TGCCAAAGTC GCACATATGG GTCGAGGGGG ACAATGTCAC 420
 5 GCACTGGGTG GACTOGAATC ACTTGGGGCC GATTTCGACG GGGCTTGTGG TAAGCGAGGT 480
 GACACGGGTC ATATGGCCGC CATOGAGATG GGGCGCAGAC CTGCACGAGG GCATGGGTGG 540
 10 ACGGCGAGTT GTTGCTTCAT GATTGCGGGA GCGGGGTAG GCGAACCTAC CGCTACGTGT 600
 ACATAGCTGA AAGACTAGAT ATTATATAAT GTGACACAAC GTGCTGCACT GCGGCAGAAG 660
 15 GATGGCTTAA GAATCGTGTG CCTCCTCCTT GACGATCTCT GGGAAA 706

(2) INFORMATION FOR SEQ ID NO:945:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1585RP

35
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:945:

40 GATCCCCGTT GTTGTGCACG TGTGATTCAA TATATACATA CTGCAAGTCT GTACATGTGC 60
 TCTATTATAT ATGGTGCTCA TGTGCGCTT ACATTCTTTC TTTATACAGT TCATGTCTTT 120
 45 CCGTGTGGC ATACCCAGTG ATGCCCGTCA TACCTGGTAA CCACAGTTTC TATAATCAIT 180
 CAGGCTGAAC TGATCAATGG AGCTGCGTTT GCGAATTTG ACGCAGAGGT TTGTATACAC 240
 50 ATTGATGTCC GCGCTGTAA AGCCTTGCT AAACGTGCAG AAGCAATTCT TCGTTTGA 300
 ACACGAAGTG CAAGGCTTGA ATGCTATCAA CTTATCCACA TGCTTCAGCA GGTTCAGTTC 360
 55 CTTTGTGAGC AGGCGCTGCC TCACCTGTC TGAATCTGG CTAAGCCACT CGTTTGCCAG 420

CTCAGACACA TTTACCGGTG CGTGAAGCAT CTGTTGAAC GAGCCTGTGA CCGAGGGGTC 480
 5 CTGGAACAGT ATCGTGATCG TGGCGTCACA CTTAATCTTC TTGAGAGGGC AGATGTCCGA 540
 GCTGGGGCCC GTCCGCTGAC GCTTGTACTT CGAGCCCGTG ATAAAGGTTG GCTCCTGTAG 600
 10 CAGCGAGTTC GGTGGCGAAC AGTGCGCTGC ACGTCCCCCG TTGGAAGCCC GAAGCAGATT 660
 CCGACATCAG CCGCGACATC GACACGCGCC GCGCGGACTC TGGCGAGCGC GCGTGT 716

(2) INFORMATION FOR SEQ ID NO:946:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1585UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:946:

GATCACTCTA CCGGGGACAG TTGATTGAGT CCAGTGACGT GAATGTCAGA GAGTCACCAT 60
 TTTTCAACCT ATGACCCCTCA TGGCCAGCA TGAGTCCAAC CTTGCAGCCT TTAAATTTT 120
 40 CTACATTTTG CCGCAGAGTC TCATAGGAAA TAATCAATAC AGGCTTGACT ACATTACGGC 180
 CCTGGGCAAT CGCCCACTGC CTGACCGACT GTGCAACCGA GCCGTTGAA AGGGAACTTT 240
 45 TACGTCCATC GATAGCCAGT GCGAAAGGG CATCGGTCC CAACCACTTC ACAATCTCAT 300
 TAGCCAGTT ATTAACCAGG GACGAAGGGC AGACAATGAT GCACTTTTCA ATTGTAGGAC 360
 50 GACCTTGGGA GCCCTGCCGT AGTAGGTCC ACATTAAAGC TATACATTGC AGCGTTTAC 420
 CTAGACCCAT TTCATCAGCC ATAATACACC CATAAGCCCC OCTATTTGAT TCTCGAGTCA 480
 55

TAGCTGCATT GGCATCCAAG ATCTCAGGCG AAGGGGTGGG CGTCGGGGTA AGAATGGGCG 540
 5 TGGGGTCTC CTCAAGCAAC TCCACAATA TTGGCTCACT ATCTTTACTA CCGGATCCT 600
 TACCAATGCC ATGCTCTTGC ACCTCGCCGG CTGCCAAGAG AGCCTGTGTA TCAAAAAAT 660
 10 CTTTCATGCC CAGACCAGTC ACACAGGGT ACAGGAATCT TACCCCTTCC ACTTGATGAG 720
 GCGTTAAAT CCGCGCCAGA 740

(2) INFORMATION FOR SEQ ID NO:947:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1586RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:947:

GATCAGGGGT AAGGGCAGGA TATGAATAT GGAGAGTCT ATTTTAACT CAATGGCATA 60
 TAAACACCGC ATATTTCTTG TGGTTATGAT AACTTCAAT ATGAATCAG TCGCAGGTA 120
 40 GAGGGTTGGT GAGAGTTTAC CACGATATCC AGTTGTTGCT GGGCCCGCAG CACCAAATAT 180
 AACTGAGAAT TTAAGTTTCT CGAAGAGAGT ATGCAACGGG GGCTTGTOCA CTACGATTAA 240
 45 AAGAGCACCA GCTTTCTCAT GCCTTCAACT ATGCAATAT AAATATATTG CAAAAGGCTT 300
 AAGCTCTGTA TTGAGCCCCG GAAATGTTTC TAGCAATGTA GCTCTCTCAT CTTACATTA 360
 50 GGCTGGAAT GTGCTGACCA ACTGCAAAAA CCCAGTCATA TGTAAATAG TGATGATAGT 420
 CAGCGGATA TTTAACCGCG GGTGCAAAAA ATTGATTTTG CCCAGGATCG AACTGGGAC 480
 55

GTTCTGCGTG TTAAGCAGAT GCCATAACCG ACTAGACCAC GAAACCAACC TTGAAGAACG 540
 5 CACGCGCGGA AACCGACCAA CACAACCGGT GCAAACCAAG TGCGTGACGA CTCTTTAGGC 600
 GTGTGCTAGG GGGGCGCCCA CTCGTACTTA TTTTATAAAC CTTGGATCCA GGTGCGTCCA 660
 10 TATACAGGGC GATCCGCGCC ATCTGCAGCA GCCAGGAACG CA 702

(2) INFORMATION FOR SEQ ID NO:948:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1586UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:948:

GATCAACAAA GTCAAATCCA AAATTGTGCT GGGAGAGAAA AAGATTCCGC CATCATTTGGG 60
 35 CCTTTTCTAT AGCCATCAAT TCAACAATCG GTTAAGCGAT TTGAAGCCTT CAGCCCTTTA 120
 TGAGGGTGAT CCTGAGAAAC AAGATGGGAC TGCTACCGAT GGAAGCAGCG GTAGTGTCCA 180
 40 TGGGTATGCC ACTGATGATG ATATCATTTGT CACAGGCGAG AACACCGTTT ACAGCCTAAG 240
 CCAAGGGATT GCATATCATA TAGATGAGGA AGGAAACTAT TATTATGCTG GTATCGATCC 300
 45 GTTTACTGAT GCATTGGAAC AAGAGGCAGA TTGCTTATAT CATGAAAGTG AGGTAGAAAG 360
 CGTAAATGTC AACAACTTGG ACCATCTTTC TTCGATATC AAGGAAGAAA ACATAGACCT 420
 50 CGATGGTAAC ATAGAATTGT ACGATTCTGA CTTTGACCAC ACTTCCCTCG ACCAGGTCCC 480
 GAAGGCTACA GAAACAATCG AAAAATACAA TAATAACCAA TACTACAAGA TGAACACGCT 540
 55

AATCACTGAC TCATCAAATT GCCAGGGCAA CACTGTAGCG CTCATCTG ATTATGGAAC 600

5 AACTTCCGTG CATGTTGAAA ATGTCTCTAA TGAGAATTC TTGGGGTCAT CAGGCTACAA 660

GGAGATATTC CTGAAAATA TGATGACTAC CTTTACGAAG GGGACGAAGA TGATTTGAT 720

10

(2) INFORMATION FOR SEQ ID NO:949:

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 678 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25

(A) ORGANISM: PAG1587RP

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:949:

GATCATGAG AAGGAGCTGG AGGGCGTGG CATCGGCTG AACAGTGC CTCGGACAT 60

35

CATTGTGAAG AAGAAGGAGA AGGGCGGTTT ATCGATCAG AACACAGTGC CGCTGACACA 120

TTTGACCAC GACGGGATCC GCGGGTGAT GAGTGAGTAC CGCATCAACA GCGCGGAGAT 180

40

TGCGTTCCGG TCGACGCGA CAGTTGACGA CCGATTGAC GTCTCGAGG CTCCCAGCAG 240

GCGTTACATG CCGCTATCT ACGTGCTGAA CAAGATGAC TCGCTGTCAG TGAAGAGTT 300

45

GGAGCTGCTG TACCGGATTC CGAATGCTGT GCCTATATCT AGTGCACGG AGTGGAACCT 360

AGATGAGCTG CTCGAGGTCA TGTGGGATCG CCTGAACTTG GTGAGAGTTT ACACCAAGCC 420

50

CAAGGGGACC ATGCCCGACT TCAATGACCC GGTGTGTGTT CGGTCAGACC GTTGACAGT 480

GCGGGATTTT TGTAACCAA TCCACAAGTC TCTGGTTGAG GAGTTCCGA ATGCTTTGGT 540

55

TTACGGTAGC AGTGTGAAAC ACCAGCCTCA GTACGTGGGT CTTGCACACA CTCTAGAGGA 600

TGAAGACGTT GTGACAATTC TGAAGAAGTA ATGTCTTGGC ATTTATGCAT GGTTCGAATG 660

5 CACACGTTCT CCGCTGC 678

(2) INFORMATION FOR SEQ ID NO:950:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1587UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:950:

30 GATCCTAATA AAAGCTTTTC TGCAATTGCT CTACCTACGC CTGGAAGGTC GCGTAGGGCA 60
 CACGTTTCAA ATAGATGTGC AGGAGATACG ACCTGGGTAT CACCCCCCTT AATTGATTCT 120
 35 TTAGTGCAAA CCAGATAGCC ATCAGGTTTC GCAAGTTTGA AAGCCAACCG GGCTAGAACT 180
 AAGGACGGTG CGCACCCAC GCTTACCGAA CAGCGGCTG TCGCTCTGC TACTTCTGAT 240
 40 CGGATGCGTA TACACAAGTT TTGACAACTA AGTGATATGA GGGCATGTC AATAACACAG 300
 ACAGCCTCAT CCACCGAAT TGGATACACT GGTGGAAG CCTTTAAAC CTCCAATACC 360
 45 TCGTAGAAGG CATTGAAAT CGTTTGTAT TCATGTTAGG TATAGGGGAG GCAAACCACT 420
 TGGGGCACA AGTTCTTGGC TTTGGAGACC CACATGCCAT TTTGTATTCC ACATTCCGA 480
 50 GCAGCATAAT TACAGGAGGC AAGTCCGAA GATGAACCC CATGACACAC TGCCAACGGT 540
 ACTTGGCCT TGCTTGATA GCGCGCTTG ATGCTGAAA TAGTCGAAA AAAGCAATCA 600
 55 AAATCCACGT GGAAGACGTG TGCTGGTGA GCGCGCAAAT CATTAGGCG ACCTTCATT 660

ATCCGGAGAT GCGTGTGAG AACTCTGCG GTAGAGCGC CT

702

(2) INFORMATION FOR SEQ ID NO:951:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 685 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1588RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:951:

25	GATCCTTAG TTCTCGGAG TTGAGGCTA GAGGTGCCAG AAAAGTTACC ACAGGGATAA	60
30	CTGGCTGTG GCAGTCAAGC GTTCATAGCG ACATTGCTTT TTGATTCTTC GATGTCGGCT	120
	CTTCTATCA TACCGAAGCA GAATTCGGTA AGGTTGGAT TGTTCAOCCA CTAATAGGGA	180
35	ACGTGAGCTG GGTTAGACC GTGCTGAGAC AGGTTAGTTT TACCTACTG ATGAATGTTA	240
	TCCCAATAGT AATTGAACIT AGTACGAGAG GAACAGTICA TTCCGATAAT TGGTTTTTGC	300
40	GGCTGTGGA CCGGGCATG CCGCGAAGCT ACCATCCGCT GGATTATGGC TGAACGCTC	360
	TAAGTCAGAA TCCATGCTAG AACCGCATGA TTCTTTTCT CCGACATTAT AGATGGATAC	420
45	GAATAAGGTG CTTTTAGCAT CGCTGAACCA TAGCAGGCGG GCAACTGGTG TTCAGACGGA	480
	AAGGTCTGGG CCGGTGCCG CCGATTGCAA TGTCATCTG CCGAGAGTA AATCATTTGT	540
50	ACACGACTTA GATGTACAAC AGGTATTGT AAGCAGTAGA GTAGCCTTGT TGTACGATC	600
	TGCTGAGATT AAGCCTTGT TGTCTGATT GTTTCTATT TGAAGTCTG CAGGAGCAG	660
55	CTTTGAAATA GAGTCTTATG TTATT	685

(2) INFORMATION FOR SEQ ID NO:952:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1588UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:952:

GATCCCGTAC ACGAAGAAAA TCGGACGGGC CAACCAAACC CAAAGTTCAA CTACGAACCTT 60
 TTTAACTGCA ACAACTTTAA TATACGCTAT TGGAGCTGGA ATTACCGGG CTGCTGGCAC 120
 CAGACTTGCC CTCCAATTGT TCCTCGTTAA GGTATTACA TTGTAATCAT TCCAATTACA 180
 AGACCCGTAT GGGCCCTGTA TCGTTATTTA TTGTCACTAC CTCCTGAAT TAGGATTGGG 240
 TAAATTGCGC GCGTCTGCGC TTCTTTGGAT GTGGTAGCGG TTTCTCAGGC TCCCTCTCG 300
 GAATCGAACC CTTATTCCCC GTTACCGGTT GAAACCATGG TAGGCCACTA TCTTACCATC 360
 GAAAGTTGAT AGGGCAGAAA TTTGAATGAA CCATCGCCAG CACAAGGCCA TCGGATTGCA 420
 AAAGTTATTA TGAATCATCA AAGAGTCCGA AGACATTGAT TTTTATCTA ATAAATACAT 480
 CTCTTCCAAA AGGTGAGAT TTTAAGCATG TATTAGCTCT AGAATTACCA CAGATATCCA 540
 TGTAATAAAG GAACTATCAA ATAAACGATA ACTGATTTAA TGAGCCATTC GCAGTTTCAC 600
 TGTATAAATT GCTTATACTT AGACATGCAT GGCTTAATCT TTGAGACAAC ATATGACTAC 660
 TGGCAGGATC AACCAGATAC TATCTTAAAG AACACCGAA AATGCGCAAG CACACCACGG 720
 GTC 723

(2) INFORMATION FOR SEQ ID NO:953:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 741 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1589RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:953:

GATCATTCAA GCATATTTAT TAATTAGATG ACATTAAACT ATTAGACCTT GGTTTGGGTT	60
GCTGGACTTA GGGTTGTGGT AGTCGGTGGG TTATATATTT TTTGTAGACA GTCACCAACA	120
CACTTGATGT ATTTCTTTGA GCTGTGTGGG ATAGGCTGGC ATTGGATGGG GCACTGCTCA	180
TTGGCATCCT GCGGCTCAGC AATAACCATA GCGGCGCCCG CTAGAAGACC GAAAAAGTAG	240
GTTAGCTTCA TCTTGTGATA TTATTCGTGG TTTAATTAAA TGGAACTTTA GTGCTCTGGT	300
TCTCTGCCAT AGAGATCAGG ACGTTGGTTA GATATCGGTG CCTTATATA CACTGCTGCC	360
AAGGATOGAT GGACTGTAGC CGAGCACTT CCAACTCAA AGATCOGACA TCAATGTATT	420
ACTGAGAGCC AGTATACTTA CCGCTTATCA CACTAAACC CATAGCCATG GTTACGAAGA	480
TGCTGATCTA TCATCCACA CAGCTGCCA CTGTAAACGG ACTTGAGGTG GCGACAGAA	540
GGCACTACA GGATGAGGT AAATCTCAA CAGCTAGCAA CACATGCCAT TATTCTATAC	600
GAACAGTAAC GTGCTTGATA TTACAGAATA CCGATTAGGT TTTTCTCTGC CAGACCAAAT	660
GCTATTTGGT AAACTCAAAT TTAGTCAGGC TTACATTACC TGGGTACCTC GAAGGTAGCA	720
ATGTTAGGCA CTCTGGCAGT A	741

(2) INFORMATION FOR SEQ ID NO:954:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1589UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:954:

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25      GATCTTCTTG GCCATTATTG CAGTAGGGT AGGCGGGCAT ATGAAATGAG ATGCGGAGC      60
      TCTGCGCTT GAGCACTGA AAAATGGCAG TAAAAGAAA CGATCCCCGC AACATTGTGT      120
30      CGAGTGACTT TTGAGGCAGA AGTACAGGT TCAGCCCCGC GCTGCTTTC TGTGGATTCA      180
      GACCACCGGT GGTGAAGGTG GTGGTACACT GGGTCAGCT ATGCTCTCAC GCTGCAGTCC      240
35      AGGACAGACA TACCGCCAC TATAGCAGC CGATCACATA CATAAGTAAG AAAATTAGCC      300
      CCAGTAGATT ATTGTGGGG TCATGCAGTG CTGCACCATT GCGTGATGTG GTGTTGCCGG      360
40      GTAGTCTGCC ACCATOGTGA TACCGGAGC CGCAGATCC AACCGGAGGT ATAAAACTG      420
      GTAATGGGAC AAATCGGGG CCGCCCCGC CGCGCCTCC GCGCGGTAA GAAGGCAACC      480
45      CCGGCTTTG CGCTCTCCA TTGAGTCTT TTGGCTGTT CGGTGGGGC TGTGCTCCG      540
      CGTTTGGGC TTTAGGGCTG TACGGGGCG GCTGTGCCG CGGTGGGT CTTTGGGCT      600
50      GTACGGAGC GGTGGGCTT TCGATCCTT CGGCTGTAC GGAGGCGGTG CTCCTTTGG      660
      ATCCTTCGGG CTGTATGCC GAAGAACACC CTTCGG      696

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(2) INFORMATION FOR SEQ ID NO:955:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 640 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1590RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:955:

GATCATAATG ATTTGTCCTA ATTCTTTTCT TAATTATTCA TTAAATAATT AATTAAATTT 60
TTATTAATAA AAAATATTKA KAKKATGTT CGTTTATGAT AAATTCTAAA ACTTTGSARC 120
ACGAACTGAA GACAACTATG TAACGCCCTGT AATTAAATTAT AAATTATTAT AATTAAATAT 180
TCAAAAAATG GTAAGATTTA TCGAGGATTA TCGAATTAAA TAACATGTTT CACTGCTTAA 240
GTCTGTAACC GTCTATTGTT TTGATTTTTA TTATGCTTAA CGTAGTCATC AGGCGGAATA 300
CTTTAATTTT CATTTAATTT ATTCTTTAAT TAATAAAAAA TAAATAGGTA TTCATTGTTT 360
ACTGCTAAAA CTACTCGGGT ATCGAATCGG ATTGCTACT TTAGCCTTCG TTCTCAATG 420
TCAATTAATA TATAATTTAA ATTTTCACCT TATAAGTCTT ATTCATATAA TTATTATTTC 480
ATCTTACTT GAATAATTCT TAAATTATTT TTATTAAATC TAATTATTAT TTAAATAAT 540
CATTCTACGA ACCCTTTAAG CCATTACGAT TAACGCTAAC CCCCTTTGTC TTACCGCAGC 600
TGCTGGCACA AATTTTGGTT GGGATTATTT AATTATATAT 640

(2) INFORMATION FOR SEQ ID NO:956:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1590UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:956:

GATCTATTAT TAGAGGTAAT ACATTTAAC TATTATCTAA ATTCTCTTC TTCTTATTTA	60
TTCTTAACTT TATCTTATTA GGTAAATTAG GTGAATGTCA TGTGAAGTA CCATTATTTT	120
TAATAGGTCA AATTGTACA TTTATTTATT TTGCTTATTT CTTAATCTTA GTACCTATTA	180
TTTCTATAAT TGAAAATATT TTATTTTATT TACTAAATAA AAAATAATAA TTAAATAAAT	240
AATAATAATA TTCATTAAAT ACTTTAATAT TAATATTTAT ATATTATACT TCITTTATCAT	300
TTATGAGGGT AACTCATATT GCTGACTAGC AATAGGGGGG TGAACCTAC GCACCTAAAT	360
GATAAGAGTT TATCAITAAA TTATATACTA TATATTATAA GTAAATTATC AAACCATATA	420
TAAGGTATAT ATATTAAGAA AGTTTGACTG AGTGGTTTAA AGTGTAAATAT TTGAGCTATT	480
ATAAATCTTT ATGATTTTAT AGGTTCGAAT CCTATAACTT TCGTATTAAA TAATTATTTA	540
AAATAATTAA AAATAGTTAA TAATAATGAG AACATGATGT TGGTTCAGAT TAAGCGCTAA	600
CTAAGGACAT TACACATCGG AATCAAACGT TAATATTATT AATTAATAGT ATTAATAAGT	660
GGTGTACTCG TGAGTAAAAA TTAAGAATAA TGAACCTAAA TTAACTAAA TAT	713

(2) INFORMATION FOR SEQ ID NO:957:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1591RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:957:

GATCATAAGC ATCTTTAGCT CCACTATCCA TGTCTGAAAT TTGCAGCTGA TAATAAAGTG	60
GTGTGTGGC CGAGCGGTCT AAGGCGCCTG ATTCAAGTGT ATGCTTACAG CTGTTACAGT	120
TGGACACTCA GGTATCGTAA GATGCAGGAG TTGGAATCTC CTGCAACCA ATTATTTTTT	180
TTTTTTGGAG TTCCAATGCA ATATCAATTC TACTGCTGCG AAAAGGTCTC GTCAGCAGAT	240
AAAAGAATAT AGAATATGTA TATTTATATA CAAGAAGCGT TAACTGACTT TTTATTGTTA	300
TAATGCCATT CGAAGAGATA TCGCTTATTA ACAGCAATAC CCCCCTGCAG GTCCCCGCCA	360
ACCGTTGTCC AGTGATGCAA AATATATAAC TCGCATGATA AAGAAGGCCC TTCATATCAA	420
ATGGCCCAGG CATTAATATC ACGTTTCGGG CGGCCTTCAA CCAAGTAGCC ATCTTTATAT	480
CTGACATATT CCACGGCATT CTCACTATGC TCATCACCGC CGCAAAACCA ATGCTTCTTC	540
TCTTGCCGGT TGTAACCTT CACTGTACCT TCTTGTTAG CGACAACTAT CTTATTCAAG	600
TCAAACGCA AACATGTCAC CGGTGTTC TACGAAAATG TATCAGCCAA TGTAACGGTA	660
CGTAGATCCC AGATCTAATG CTGTTATCCA AGGAACCACT CACAAGGTTT AGAGAATCAA	720

(2) INFORMATION FOR SEQ ID NO:958:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 697 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1591UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:958:

GATCCCCAAT GATCCCTCTC CGGCTACAA CATGAGCAG CTOGCTAAC AGTGCAAGAA	60
CAAGGACAGG CTGGTGAAC TGCTTATAC TGTGAAGGG ATGGACCTCT CCATGAGCGG	120
TATCTCGCC CACATGACT CGCTCGGAA GGACTATT TGTGAAACA CGAAGACTA	180
CAAGCTCTT GACCGGAGA CGGCAAGCA GCTGTCACC GTAGAGGACC TGTGCTACTC	240
CCTACAGGAG CACCTGTTTG CCATGCTGT GGAGATTACC GAGGTGCCA TGGCACATGT	300
GAATCTAAC CAGGTGTTGA TTGTGGGGG TGTGGGCTG AATGTGGAC TGCAGCAGAT	360
GATGGGAGT ATGTGCCAGA GCAGGGCGA CGCCAAGTT CATGGACGG ACGAGGCTT	420
CTGTATTGAC AACGGTGCA TGATTGCACA GGCTGGTCTA CTTCAATATC GCATGGGGA	480
TATAGTAAAA GACTTCTCAG AGACCGTTGT CAGCAGAGG TTCCGGACTG ATGAGGTTTA	540
CGTATCGTGG CGGACTAAG TGTGTACAA GTTTAATAGA AGTTTACG CCTAATATA	600
GCTGTTAACC ATCAGTGGC TCGATCAGC TGGTCCAGAA CAGTAGTCC CGGTGGCTGT	660
CACCAGCTA CGGGCCAGC GCCAGGTATC CTGTTG	697

(2) INFORMATION FOR SEQ ID NO:959:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 669 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1592RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:959:

10

GATCAGGAAC TCGCAGACCT TGGCTCTCTG GTGCGCTGTC AACTGGATGA TCTCGCCCAT 60

CTCGTGTGCC TTGACCATGT TGGCGTTGCA GCCAAAGTCC TTCCGCAAGA CCTTCAAGA 120

15

TGGCGTTGAG GTCTACTTCC TCGGGGATGC CCTGCACGGT GGTCAACGTT TTCTGTGGCT 180

TTCTCTGCTG GATACGGATG TGGATGTAGT TGGAGGAGGA GGCTTGTGTG TCGCGGTGT 240

20

CAGCAAAGGG GTCGAACGAC TTGAGGTTTT CGATAGACAT GGTGGCGGTG GGGTGTGAGG 300

TACAAGGTAA GCAGAGAAA TTTTCAGCTG TCCTTTTAAA AGCGCGCAC TCGGTCTTG 360

25

GAACGATTC GCTTATTTGT GAACATATT CTTATCTGTA TAGGTGTAA CCGCATTC 420

TCTGCAATG CCGTCTTTC TTGGCGTTG GGACAACGCT TCCTTTCAAA CACACTTTC 480

30

AGGAACTCTT TTGTTTCTT GGGTAACACT GTCTTCTTC GCTGTTATC TCCTGTAGT 540

AAGGCAGAGG CTGGGATTAC AATGAGACTC GTCACACATA CTTACCTAG CAGAACACTG 600

35

CAAATCGCTT GGATGCTTG AGCTGTTTCT TCAATACYTG ACATTTGAGT TGTGGGGAC 660

GAGGAAAGA 669

40

(2) INFORMATION FOR SEQ ID NO:960:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 588 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1592UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:960:

5 GATCCACTTG TTAACGTGG CGCCGCCAAT CCTCATCCCT CCATATGTAA CCACAAGTGG 60
 TTTGTATCCC AACAAATTGCA GCTCAATTGC CATCAAGTAC GCGTATCCCC CGCCTAGAGA 120
 10 ATGGCCAGTT ATAATTACCT CATAGTCTGG ATGAGCATCA TGTACTGGCT TAAACGCCGA 180
 ATAGATATCG TTGTACGCCA ACTTAAATTG CTCATATACG CCCGAGTGTA CAAAGCAATC 240
 15 TCCCGTACAC TTTCAGCGC CACTAAGTGG CTGGTATGGA ACCCCAGGAA AAATGAAATC 300
 CACAATCCAA TCTTGAATTG TTACCGACCC TCTAAATATG ATCGAAATCT GCTTAGCCGT 360
 20 GTCATTTATT GCTATCATGC TATAACAGGA AAATGCCCCG CGGGTCATGT CCGGATCAAA 420
 AACTTTAACT ACTTGAGTCC CTGTTGTTC ATGTACCACT TACCGTCATG AAAAGGGTCA 480
 25 GTGAGTATTA AAGTATTCAC GCAGTAAAG CTGTTAGTGA GATATGACAC ATATTTCAAT 540
 GTATCAAACA TCTCATCAGA GAAAGAATGG ACATGAAGGA AAAAAGGC 588
 30

(2) INFORMATION FOR SEQ ID NO:961:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1593RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:961:

GATCGAAATA GACAACTCTG CAACGGTGTG CAAATGGCCC AGCAACTTCC AGGAATAAAC 60
 55

ACAAGTAGAC CATAGCATCC AAGTACCTAT GCTCCTCGCC TTACTATGTC TTTGGAATGC 120
 5 AAAGGACCAA ACGTGCTGCA AGACGGAGGG AGAATTCTTC AGAAGAATTA CATTATACAG 180
 GCTOGAAGGT GTGACAGOGA ACCTATCATG GTCCTCTTTT GTCGGTTCTG CCAAAAGAGA 240
 10 AGACCAGACC TCTTCAAGGG TGA CTGCAAT TCGTGTCTA AGGTGCCAG TGACAOGAAC 300
 AACCGCTTTT CTGGCAAGT CAGGAGTTT TATGCTACTA GTAACCCGGT TATTTCCAC 360
 15 TAGGAGCAAT GCATTCAAT AAGCAGCCCA CAGTCCCAA TCAAATTCAC TGGCAITCCC 420
 ATCTGGAGGA ACATTATATT GGATTACAG ACTTTGTAC ATTTOCAATA TAGTAACGA 480
 20 TGTCCTCAA AATAGGGCAT GTAGTGAAT CCACCTACGG GAGGGCATGT ATCCATCTTT 540
 GGTCAATATT GTTACAGTAT TAACGGCACT TATAATATCT TCTTGGTAA ACCGCGTAAT 600
 25 GTTAAATACA GATGTTAAA TAGGATCATT GGCGAATCT TCACAACTT GTATAAATGA 660
 GCTGCCATGT CCATATATTT CTTCCTACAA TTGGGGCTAA AGTTGCCAAT ATAGTACC 718

(2) INFORMATION FOR SEQ ID NO:962:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 652 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1593UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:962:

50 GATCGATCTG TTGTAAITTG GACACGGGGA GCTGCAAGCA GGGTAACGTA TGAGGCGTGC 60
 TGTGGGGCTT GCGATGGCT ATAGATAGGG TCATAACCACA TCATCGGTTT GCGGGGTGG 120

TATAGCATT T GGAGGACAGG TTAGCCCCGA GCCACAGCAT AGACAGGTTT ACGAGGCTTG 180
 5 CAGCAGAGGA AAAGATGGGC AAGCGATTTC ACTGCCAGCC GACGGGAGG CTGCTGCGCG 240
 GCGGATTAT CCGGGCGTTT TTGCCCTTGA AGCGGCACCC GCAGCAGCTG CTGGACAACC 300
 10 CGAACTACAC GAACCTGTAC CCGGGGGATG AGGTGTACAG CTTTGAGGAG ACGGCGGAG 360
 GGCGATGGTG TCGGTGTAC CAGGTGGTCC AACCGCTGCC GGAGGACTTT ATCTCGACCA 420
 15 TGAAGCGGTT CTGGACAAG CTGCCGAGG AGCAGCACCG CGTGGTGGTG TGCCCGAAGG 480
 CGTTTGTCA CTGGTATGAC GACGAAGTGG TGACCTTTCC GTTCTGGAC CTGCCCGAG 540
 20 AGCGGGAGGT GAAGCGGGAG GTGGCGGAGA CGGACGTGCC GAGCCTGCAC GACCTGCTGC 600
 ATAGGGAAGA CTTGGGGGAC CTGGAGCTAT TCCGCAGCT GCGGCGGAG OG 652

25 (2) INFORMATION FOR SEQ ID NO:963:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 40 (A) ORGANISM: PAG1594RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:963:

GATCAAGACT GCCGAAGTGC TAGTTTCTTG CTTCATGAGG TTTGGAATCT TGTCACGAT 60
 50 GCGGGCGTTC ACCAGGGGGT TAAGCAACTC AAAGTCGTCA TTAAAGTCG GAGCAAACCA 120
 GTAGGAGGAT TCTAGAAGAC TGSTAAGCCG GATGGCGTTT TTGAAGGGTA TTGCGTTTGC 180
 55 GAAGTTCTCA TCCGAAAGA GCTCGCTAAG CGACTCTATC ATAAGCAGCT GCAGGACACA 240

TTTTACCAAG ATGGTATTCT TAATACTTAC ACGGTGCCA ATCTCTCTGC TGCTTTTCTG 300
 5 GCGCAGAGT CCGCTCATAG GCTTATCTTC TTCAGTACTG GCGTTGCCAA CATCTCTGCC 360
 CTCTCTCTGC CGTTGGGCAC GCTCGACTTC CCGATCAACA TCACTGGCAC ATGATTGGGT 420
 10 TTCAGCAGTA CCGTTGGTGT TGATTGTGGC TACTGATGGC TTCTTTCCAC GCTTCAATGG 480
 ATCTGACTCA AAAAGTTCTG TGGCAGTGGT AAGCTCAAAT AACCGGGCAA ACGAGTTGGT 540
 15 AACCTGCTCC CAATGCGTTG TCCCGAATT GTTGGTGTTC TGGATAATCA ATTGCTGCAG 600
 ACAAGACCTA CCAATCCTGG CAATGGTGTG ATTTTCTCTGA CAGATGCAAG AGACTAACAA 660
 20 AACCAGGAAG CCATCCAACA TTTCGTTTCAG TGAATCAAAG TAATGGGTAA CAGGGC 716

(2) INFORMATION FOR SEQ ID NO:964:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 695 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1594UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:964:

45 GATCTGAATT TAAACGTGAG ATACCGTTT TTCTGACAGA GATATATTTT CCTATATCTC 60
 ACATGAAATC TTCTACTCCA CATCAGAAGA GGTATTTTTT GAGTGTATC CAACGACTAT 120
 50 GCAATGACCC GAGAACCCTA ATTGAATTCT ACCTAAATTA TGACTGCGAC AGTAGTATGC 180
 CTAATATTGT CGAGACTGTT GTGGATTATT TGACGGGACT GCGCTAACA CGTGTGATA 240
 55 TCACCGCATC ACAGCGTGGC TACTATGATG AACAGTGAA CAAACCCCTT GCAACGIWTA 300

ACCTATCGCA GTTGCCCTTA TTATCCATAT CTAATGTTAG CAGTATGTCT GTTGCTOCAC 360
 5 AGCAACTCCA ATTCCCGGTG GAATTGCGC TTAAATGAC CTCGTTGAAA TGTATGTTGG 420
 CCGTGCTAAG ATCACTAAAT TCTTGGGCGG ACAAGGCGAC GGCTCCAAAT GGCACATTAA 480
 10 ACCACAATAG GGCATCTGTT GGCTCCAGTA CGATTGAAAG GAAGCACTCT TGGCTTTTA 540
 GCTCTTTCAG TCACACTATG AACACAACAC CTGTAGGAGA CCAGATAGT GTCCAACAAT 600
 15 CGGAAGCGAG TGAGGATATT GATGATCCCA CACAGTTTGA AAATTGAG TTAAGGAAAA 660
 CAGAACTOCA AAAATGTATT CGGTATTCA ACTTC 695

(2) INFORMATION FOR SEQ ID NO:965:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1595RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:965:

GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GCGCCCTTTTC 60
 45 CAATATTTTG AGCGTCGTTT CATAGCTGGG AAGACGCAGC AGAAGCCCCC CCAGTAGTGT 120
 CTGTTTCATGT TCGTTCATGA AAGGTGTCCT TATCAAATCT AGCTOCATCA TCGCAGAGTA 180
 50 GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCGGCAAC TTGTCAGGA TTACAGTAAA 240
 ATAATGGTAG AACCGCGAC TCACAGAAGC GACGACCGCT CGAAATGAAG TCGGCCCGTA 300
 55 GAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TGGGAAAGTC TGTTCACGGG 360

GGACACCGTG CCCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420
 5 CCGCGCGAGC TCAGTCTCAA GCTGGTGGAT CCGTGGCAGC AGCTCCACAT TGGGGGTGGA 480
 GCTGAACAGC TCCCGTGAGT TCAAGTGGTG CGTAAACTCA GACAGGTACA CACACTCGGG 540
 10 CAGGCGTTCC CAATACATGT AGAGCACTTC GCGCGCGCCT TGTGCACTT GACGCGCCGC 600
 TTGGGCGAGA ACACGCACGA CTTGCTGACC TTCCGCGTGG TTTTCACAAT CTTGCCATCG 660
 15 GACTCTGACA TCCCGCCAGC TTCAAGCAAA ATGAGTAGGC TATATTATT 709

(2) INFORMATION FOR SEQ ID NO:966:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 731 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1595UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:966:

GATGCGGAC GTGGAGCACT GCGCGGAGAT GCGCGCGGCC ATCTTGGTGG TTTCTGGGA 60
 40 CCGCAAGGGA CAGCCATCG ACGAGCGTA TGCAGCAGC GGTGCACAG TGGACCTCT 120
 TCAAGGAGCG CGTGGGAGC GTGGTGCCG GCGGTACGG ACAGATGGG GCGGCGATCC 180
 45 GCGCGCGGA CTTGGGAGC TTTGCGCGC TGAAGATGA GACTCGAAC TGTTTCAAG 240
 CCACCTGCTT GACTCATTT CCGCGATCT TCTACATGAA CGACACTTC GCGCGATTG 300
 50 TCAAGCTGTG TCATCTGATC AACGATTCT ACAACGAGC CATGTGGCG TACACGTTG 360
 ACGCGGTCC GAACGCGTG CTCTATTACT TGGCGAGAA CGAGCGCGG CTCTGCGCT 420
 55

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 10
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TCTCTCTGCG CGTCTTTGGC GCCAACGAGG GCTGGGAGAC CACGTTCTCG ACGGAGCAGC 480
 GCGCCACCTT CGCGCGCGAG TTGACGAGT GGTGCGCGG CAAGCTTGG ACGGACCTGG 540
 ACGACGAATT GCACAGAAGA ATTGCCCCGC TCATCTTCAC GAAGGTGGG CCAGGGCCCA 600
 GGACACTAAA TCTCTGCTCA TCGACCGAG ACGGGCTGC CCGCTGAGG CTATTCTCT 660
 GCTATTTTCT GCTCTGTATA CCTGCCAGA CGCGCTATAT ATATAGAATA TGCAATTGGA 720
 CGCTTACGCT T 731

(2) INFORMATION FOR SEQ ID NO:967:

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(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 672 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1596RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:967:

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GATCGACAAT CTGAGCGAAA TATTTAGCAC GACATGCTAC ATGGGCTCTA CGTGATAGT 60
 ATGGGAGTGG ACCAACCGGC TGTCATACT GGAGGCCAGG CGCCAGGCGC AGAGCAATTCT 120
 GGGGCGGGCG GTGTATGAGG ACGAGGAGCA GGGGTACAAC TTTGCGCGAT ATGCGCTGAA 180
 GATTGAGACC GCATTGACCA GCAAGTCAGA TGAAGGCGAC ACCACATCAG CGACTACCTT 240
 TGCTGCACCG AGATCTGGGC GCTTGAAGG GAAAGGCGG CCCCATTCC CAGTCTATGT 300
 TCAAGAGGCG GAACAGCAGG CCGTCATGGC ATTCAATAAG CGAATGGGCA CTGAGCGTT 360
 GGCACATCAT GTGCTGGATA GCATCATATA CTACACAGAC AAGGTGGTGG TGAAGGGGCT 420

TGGAAATTG TCCGCGAGCT TACCTTCCAA GACCTCCTCG GCGACAAGCG TCAGGGGTG 480

5 TGTAAAGGAAA CGCATTGGTC TCGAAGGGCG AAATGATGTC TTTGTATACC GCACAAAAGA 540

CCTGGTATTC GATAGTGATG AAGATATAAC CAGAACCTAA CTACTTGTGT CGATATTTCT 600

10 CACACGGCT GGTGCGGAAC CCGGGGCATA CATTCGTTTT ACACAAGAGG GGTTGATGCA 660

TAAAACGGC TT 672

(2) INFORMATION FOR SEQ ID NO:968:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1596UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:968:

GATCTTCGTA TCCATGTGCG AAAGCTCTC CAAAATCTTT TGTCTCCAT CATGAGAGGC 60

40 TGCTACAGCT TTTGAGCCGA TAGAATTGGA AATACCATG GAGATTGCTA TTAGTAGGAA 120

GACAATATAA GTACCATCTG TCGATGGGCG AGAGGCTTTA TCAAGAAGGT CCATCAGCTT 180

45 GTTCTTGGAT ACAGCAGTCT CATTTAATAA TAATGCCTGC TCACCACTGG GCAAAAATTC 240

AGAAACATTG AGCAGTTCAG AGAGTGAGTT CGACTCAAAG TTTTCGGTCA TTGTCTCTAA 300

50 CAAGACAAA ACAACGTCTT TCTGCTCTC ATGAACATCA TAAGCCTTGA AAACCTCGAG 360

CAAAATAGTA TTGTCTGGA TCACGTCAA AAATACCTCT AGAATTAATG CCTTCTCCA 420

55 CAATAAAGTG TCAGATTAG GAGACAGAGT GTGGATTAAT AATGATAAAA TAACTTCCAA 480

TTCCAATTCC AGCAATGTCA AATACTGAAC CTTTATGAGA ATGTAATACA TCTGGCGCTA 540
 5 CGAACCACAA TTGCAAAATT TTTGGATGAG GAAATGTACC TCAATAGCAG CGGCACCGCC 600
 TTTGTTGCA ACAGAAATAA CAGATCTCG TGTGTCAAAA ATAATAATTC ATAGTTCAAT 660
 10 AAAACCAGTT CTAGGAGCTC TAATOCATAC TCCTCATTTA TGCAATTGCT ATCCAGCAAT 720
 GT 722

15 (2) INFORMATION FOR SEQ ID NO:969:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs
 20 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1597RP
 30

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:969:

GATCCATCAG CGGGCTACG GAAATCCTGC CCATAGAATG ACTCTCCAAA CCGCTCTGAA 60
 CTATCAGCAA AAGCTCAACA GCATRCAGG GTGGCATGCC CAGCAAAAAC AGATCCAGCG 120
 40 TCAGATAAGC GCTGCCARCG CACTCGATGA CGGGAATACC ATCACCGCAA TGGTCCAGCA 180
 TTTGATGCCC AAGAAGAAAG ACCAGCCACC GCAGCAACAG GGACCTATG GCTCTCGGCC 240
 45 AAATCTGGC AACAGCTCCA CGTACGGGG CAGCCCTGCT GCCACCGGC CGTCTGCATC 300
 CGTAAATGCT CCGCGCGCCG ATGACGCCA AAAGCTGTG CCACAGCGC ACAGCGCCCC 360
 50 TGGCTATCC GCTAACGGTA ACACAGCCCC TATGTGGGA AACTCGGTTA GCCTAGTAA 420
 TGGCTCATCA GCAGGGCCCC GTTTGTACA ACAGTCAAAC TCTCTGGACT GGAAGCAGAC 480
 55

ACCGCCAAGC AGTGGCGGAA GCGTAACCGA AAGAAAGCCA AAGCTCGCTC TATTGCTAA 540
 5 GAAAAAATAA TATCATGCGA CCTATCATTT ACACATATTC TAACGTTCOA CCTGTGTTAG 600
 TGTACTCATT TAATTAATTC ATTAGTGCTG CCACTGCTGC AGACATGTGG CAAGAGGCAA 660
 10 AAATGGTTCC TAGCGGGATC GAACCGCT 688

(2) INFORMATION FOR SEQ ID NO:970:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1597UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:970:

GATCGAGGCA GCGGTACCGT CTTTGTGTAC GCATGGGCAG AGTACTGCGG GATACAGGCG 60
 AACATCTTAC GCTGACTACA GTTCCTGGAC ACACCACCTT ACAGCTTTGG GCCTGGGTTA 120
 40 TTGGTGCTCG AAGATATGAT GTTCGGAATT TTTCACTCGC CGTCGGGCGT GATGAAACTG 180
 GAAGACAAGA CCTACAGTCA TCTAGCCAAC ATAACGCCCT GTAGTGGGCG TCTCGAAACG 240
 45 AGGTAGAGC GTAGGAGATG CTCCACGGCG CCGGTGCGT ACAGAGAAGA ACAAGACCGC 300
 CGGCATTCTT TTTATTTACT TGATTAACT CTGGCCAGT CTGGTTTCCA CTGACAAAGT 360
 50 GCCCACCAGA TGGATCGCGG GCGCGGTGAT CCTGCCCGG CGATAGCGGG CGACCGGAGC 420
 TTGCGTGGGT TTCACCTGCA TCTGCACAAG ATGTTGCTAC GCGGTAGAAG CAGCGCGTGG 480
 55 GAGGCGCAGC GCGCGCAAAC AGGACGTCAG TCTGACGCGC TACTTCGCCC GCGCTGCTGC 540

ACCGGCTGAA TTGGGCTGCC GCGAAGTCTT GATTGCTACG TTGAGTCATA GTCTCAGTAA 600
 5 TTATCGCATG GTGTTACTGG CGTTGCAAGT GACCACACTG TGGGTCCTT TTGGCCCCA 660
 GATGAACCTG CCATCAGCTC TCCGCCAGGA CGTCACAAC AGCAGCAGT AC 712

(2) INFORMATION FOR SEQ ID NO:971:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 740 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1598RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:971:

GATCTCATA ATCATAGTAC AATATCATTT CCAATAAATG GAATAGCACT AAATAAATTA 60
 GTAATAACAG TAGCACCTCA ATGTGACATT TGTCATATA CTAAACAATA ACCTAAGAAA 120
 GCTGCTGCTA TAGTTAAAAT AAGATAATA ACACCAACTG TTCATACAAT AACTCTAGGT 180
 GATTTATAAG AACCATAATA TAAACCTTTA CCAATATGAA TATACATACA AATAAAGAAG 240
 AATGAAGCAC CATTAAGATG CATATATCTA ATTAATCAAC CTAGTTGTAC ATCTCTCATA 300
 ATATGTTCCTA CTGATGAGAA AGCTAATTCA ATATTAGATG AATAATGCAT AGCTAAAAAA 360
 ATACCAGTAA GAATTTGAAT AACTAAACAT AAACCTAATA AAGAACCTAA ATTTTCATCA 420
 TAATTAATTG ATGATGGTTG AGGTGAATCA ATAACATAAC TATTAACTAA ATTTAAATAT 480
 AAATTTGATT TTCTATATGC CATATATTTT ATTATTAAAA TATTATTAAA TTATTATTTA 540
 ATAAATATTA GATTATAATA TAATCTTTA TAATAAATTA TATTATTTAA TTAATATATT 600

AATTTATTAT TTATTATTTA TTAATATTTA TATAATCTTT ATAGGGAATT GAACCTAATA 660
AACCATTAAG ATTTAATTAT TTAATTATTT AATTTATTTA ATTATTTAAT TTATAAATTA 720
TTAATTAGAG AGATAAGGGT 740

(2) INFORMATION FOR SEQ ID NO:972:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1598UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:972:

GATCTTATCG TCTAATGGTT ACGACATCAT CTCTTCATGT TGAAATATC GGTTC AATTC 60
CGATTAAGAT TATTAATATA TTTTAATAAT TATTATAATT AACATATTA ATTAGAGGGG 120
TACCAACATA TTGCTAACTA GCAATAGGGG TGGTACCTT ATCTCTCTAA TTAATAATTT 180
ATAAATTAAA TAATTAAATA AATTAAATAA TTAATAAATT AAATCTTAAT GGTTTATTAG 240
GTTC AATTC TATAAAGATT ATATAAATAT TAATAAATAA TAAATAATAA ATTAATATAT 300
TAATTAAATA ATATAATTTA TTATAAAGAA TTATATTATA ATCTAATATT TATTAAATAA 360
TAATTTAATA ATATTTTAAT AATAAAATAT ATGGCATATA GAAATCAAA TTTATATTTA 420
AATTTAGTTA ATAGTTATGT TATTGATTCA CCTCAACCAT CATCAATTAA TTATTGATGA 480
AATTTAGGTT CTTTATTAGG TTTATGTTTA GTTATTCAAA TTCTTACTGG TATTTTTTTA 540
GCTATGCATT ATTCATCTAA TATTGAATTA GCTTTCTCAT CAGTAGAACA TATTATGAGA 600

GATGTTCAAC TAGGTTCATT AATTAGATAT ATGCATCTTA ATGGTGCTTC ATTCTTCTTT 660

5 ATTGTATGCT ATATTCAATAT TGGGTAAA 688

(2) INFORMATION FOR SEQ ID NO:973:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 625 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1600RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:973:

30 GATCTAAAAG AATCCATGTA TGTACACATA TTACGGAGGG TTAAGGTGAC GAACGGTAGC 60
TACAGGCCCTA TAAATCTGGG TTCTTTTGCA AAAGTTCAATG CAACTCATCT GGGACGTTGC 120
GCCAGTCTTC GGCAATCCAT TTCTTTATCC TATCTCATC GGCTGTGCT AGTATATCTA 180
35 CTTCAGAGA GCTCTGGCA CATGTAAAT TGCAGCGGG AGAGAGGACA GGCGAAGATT 240
CTTGAGTGGG GTAAGAACT TGTTTTGATG GTATGCTGCT AGCATCTTC TTCCGTCTGT 300
40 GTTCTTACC GTTGTTAAT GATACTCGA TATAATGTC TATTAACATC TCTGGGTATG 360
GGGCAAGTT TTTGGGCTG TAGTGGCCA CATATTTGCA CCTCCAGTAT ACAGACCAAT 420
45 GTAGTTCACC ATATGCGGG ATGTTCTAT GTCTACCAAG GTTAGGCACA TAAAGTTT 480
TCCATTTGCA ATTTTATCT TCAATCTTA TGGGATGAA CATCATTTCC ACTATCCACC 540
50 AGGCAATGAA CTGAAATATA CTCTTTGTT CATGTCCATC GTTCTTTGCT GCGCGATTA 600
TACATCTCCG GAAGGAAGGC CTGGG 625
55

(2) INFORMATION FOR SEQ ID NO:974:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 656 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1600UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:974:

```

25  GATCAAGCAG CTACTGCTCA CCTGGAAGAA GCAGGGGCAC AAGGCCCTGC TCTTCAOCCA      60
    GTCCAGGCAG ATGCTGACA TCTTGGAGGC CTACATCTCG CACAAAGATC CCGAGCTGGC      120
30  AGGCTTACAG TACCTCCGGA TGGACGGAAC CACAAACATC GCACACCGGC AGGCCCTGTG      180
    GGACCGTTTC AACACCGGC CGTACCACTT CTTTCTTCTG ACCACCGCG TGGGGGGCTT      240
35  CGCGTCAAC CTCACGGCG CGAACAGAAT CATCATCTTC GACCCGACT GGAACCCCTC      300
    CACGCACTG CAGGCCCGCG AGCGCGCTG GCGCATAGGC CAGAAGCGCG AGGTGACTAT      360
40  CTACCTGCTC ATGGTGGCG GCTCATCGA GGAGAAGATA TACCACCGC AGATCTTCAA      420
    GCAGTTTCTC ACCAACAAGG TCTCAGCGA CCCAAGCAG AAGCGCTTCT TCAAGATGAA      480
45  CGAGCTGCAC GACCTCTTCT CCTTGGGCGG GGGCGCGCGC AGCGACTCTT TTGCTCTGA      540
    GATCGAGCAG CAGACCGCT CCTCCGCGG CCAGCGGCGC GCGCAGGCA CCGACGACTA      600
50  CGACTCGTTC CAGCGTTTGG AGGGCGTCTC CAAGCTGGAG GCCTTCTTCA AGGCCA      656

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(2) INFORMATION FOR SEQ ID NO:975:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1601RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:975:

20	GATCTTTTTC CCCCGCAAAC CGCACACCTC GTTCCAGGGG TACTTGGGCA ACAAAAAGGC	60
	GACCGAGAGC AAGGTTCTAC GCGATGTTTT CAGGAAGGGA GATGCATGGT ACCGGTCAGG	120
25	CGATCTCTTG AAATCCGACA AGTACGGGCA ATGGTACTTC GTGGACCGGA TGGGTGATAC	180
	GTACCGGTGG AAATCCGAAA ATGTCTOGAC TACCGAGGTG GAGAATCAGT TGCTCTOGTT	240
30	CAACAAGGAC CTCTTTGACT GTTTGGTTGT AGTGGGCTG AAGATTCCAA GCTACGAGGG	300
	TAGAGCCGGG TTTGCTGTTA TCCAACGAA TCACGGGCGC CGGGGACTGG ACCATGCCAG	360
35	TTTGTTAGAC GACCTGTGCG AGTATTGTAA ACATGCTCTT CCTGGTAAG CCTTCCCGCT	420
	GTTCATCAAG TTCACAAACC AGCTGGAAAC AACCGATAAC TATAAGTTGG CCAAGAAACA	480
40	GTACAAAAC CAGCAGTTGC CTCATGGTGC GGATGGGGAC GAGACAATTT ACTGGTTAAA	540
	AGACTACTCC CAGTACAAAG TCTTGACCGA CGAGGACTGG GAGCAGATAT CAACCGGAAA	600
45	GGCAAAGCTT TAGACCAGAC AATGCCGGGA TTGACACCGG TAGGGAGTTC AAAATAAAAA	660
	AAATACCTGG GAAGCCATCC ATAAAAGCCA TTATCAACTA TAGAAATAGA AAAGT	715

(2) INFORMATION FOR SEQ ID NO:976:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1601UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:976:

GATCGCCCTG TCCCGGGACG GAGAGCGGGC GCTGCGCTAG CATAAAAGCA CGCAGGTCAC	60
TGTGCATGAA ACTCGAATCG AACGCGGTAC TCGATGGTAG AACTAAACGG GCTCGGCTTC	120
GAAGTACGCA CAGTTGAGTG AAATGTCAGT GTCGGGCGCA CGCGCCCAAG AGCAGAATAG	180
CATGGACATC GAACAGAGGT CATCGCAGCC GAGTCGAAGC AACAGCCATG CAGGATCGCC	240
GGGGTACGAA AAAGTGCAGC CGCTGTATGC CGCAGAGAAC GGTTCACCG AGACTGCCCC	300
GACAGCCACC GGGCTGTPTG ATAGCTCGCA CGTTGTACCG GTGTGCAAC GCGCGGACT	360
GCTGAGTAGG CTGGCGCTTG TGCCCGAATT CCGGACGCA CGTCTCTATC CCGCGGGGT	420
CAAAAAGCTG ATCTGTGICA TGTGCGCTT TGCATGTATT CTGGGTCCCA TGGGACCAA	480
CATCATCTAT CCTCGATCG GGACTATCAT GCAGGATTTT GCACTTGC GGTTCCTGGT	540
CAGTGTGCT GTAGGCACCT AACTGCTGC GCTGGGCATC TTCCCATCT GGTGGTCTC	600
GCTGGCGAC AAAAAGCGCC GCGAACAGT GTACGTGCTG TGTTCGCG TCCTGGTGGT	660
GTCAGCGTT GGCACGGCT TCTGCGCAA CATGAGAC	699

(2) INFORMATION FOR SEQ ID NO:977:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1602RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:977:

GATCCAAGCG CCCGCACAAC CAGCGATGTT TGCAACATAT TCGGCTAGTA TTCTCCGTTT	60
GACTTTACCC CTGCGTAGCG TTGGCGTCAG ACTGCTGAGC CAGGAAACTC GGCGGGCCAT	120
TGAGGGCGCC ATTTCTCTTG CCCAGTGGT TCTGTTTATG AAGGGCAACC CAGAGTTCCC	180
TCAATGTGGC TTTTGAAGG CCGCCATTGA GATCTGGGC AGACAGGGCG TGGATCCTGC	240
GAAGTTTGGC GCGTTCAACG TGCTGGAGGA TTCTGAGCTG CCGAGCGGGA TAAAGGAATA	300
TTCCGAGTGG CCTACAATTC CACAGCTCTA CGTCAACAAG GAATTGTGTG GGGGGTGGGA	360
CATCTTCACC AACATGGGC AATCCGGCGA GCTAACTACT ATGCTGAGG AGGCATCGT	420
TCTTGTGCGG GATACTGAGT GATGCGCGT ACGGCTCCCG ACTATATTTA TAGGAATACA	480
GCTTGTAAAT TACGACTTGT ATTCTCATGC CTTTAGACTT GTAAATCATG GTTGTTTAAT	540
TCACAAACTC CGTTCTTTCA GTTGAAAGAA GTGAGAACAG CTTGCTTTTC GTCATGTGTG	600
AAAGAGGCTT CTGATGGAGG AGGCGTGCAC ACGCCAGCAG AGAAAGTCTC TCAAAAAATG	660
ACGTTCTAGT GGAAGGGCGG ACGCAATCAC CCTTGAATGC GCGA	704

(2) INFORMATION FOR SEQ ID NO:978:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 476 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1602UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:978:

GATCGTGCCC GGGCTGTGTC TTGTGCCAG AGTTGTGCTT GTGCCAGGC TTTTCTCGC 60
TGCCCTCGTC GCTGCCCGGG GGGTAGTACA CGCCGAAGTG CTTGAGCCGC AGCGGGCCGC 120
GGAAGTGCAC CGTCAGCTCC TGGTCCAGCG GAGAGAGACT GCCCGAGAAC TCCAATTTTC 180
TCTGCTTACA CTTGCAGCTC TTCTCGTCCA TGCTGGTGAC GTCCAGGTAC GTGCCGCTGT 240
AGCCACACATT GGCATACCGG ATATTTTCTG CCTTCGAGCA GTAGTAATTC CCTCGATGA 300
AATCACAATC GCCCAGCACC TGCTGCCAG CGAGCAGGCC ACCTGCAACG ACTGTGACA 360
GCTTCATAAT TTGTAAAGC TTGTAAAAGA ATGACTAGTA GTTAGAACAG ATAAAAGAGT 420
GCTTTGCTGT GTGCGCTGTC GCCCGTCCAC GCGTCCGAG CTCACCCGCC TTCTTA 476

(2) INFORMATION FOR SEQ ID NO:979:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1603RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:979:

GATCCGGCAA GATGTCGTT CAGTTGACG GCAGATTGAA CAAGTGCGGT GTCATCTCTC 60

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	CAAGATTCAA CGTCAAGATC AACGACGTGG AGAAGTGGAC TGCCAACTTA TTGCCAGCCA	120
5	GACAGTTCGG CTACGTCAATC TTGACCACTT CCGCCGGCAT TATGGACCAAC GAGGAGGCCC	180
	ACAGAAAGCA CGTTGCTGGT AAGATTTTGG GTTTTGTTCTA CTAAGCGGCT GCTATATAGC	240
10	GTATCTAGCT CTAATGTACG ATACTCAGTG TCTATTACGA CCGCCGGGAG CTCACGGGGC	300
	CACATACGAG GCCAGCCGGC GACGGCAAGC GGGAAATTCAG ATGGGTTAAT TAGCAGTAGA	360
15	TTAGTAGTAT ATATGTACAA ACAGCATACA CATGAAGGC GTGGCGATC ATAATCTTCT	420
	ACCTCTTCTA CCACCTTCTT TTCTGGTAGA GTGGGATGGG ATAGGAGTGA CGTCTCGAT	480
20	ACGGCCGATT CTCAAGCCGG ATCTGGCCAA AGCTCTCAAA GCAGCTGAC CACCTGGACC	540
	TGGGGTCTTG GTCTTGGTAC CACCGTAGC TCTGATCTTG ACGTGCACAG CAGTGATGCC	600
25	GACCTCTTA CACTTGGCAG CGACGTCTG AGCAGCCAAC ATGGCAGCGT ATGGAGAGGA	660
	CTGCTCTTG TGGGCTTGA ACTTCATACC ACCGGTAACT CTGGCAATAG TTCTCTGCCA	720
30	GACA	724

(2) INFORMATION FOR SEQ ID NO:980:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 721 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
40	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1603UP

50	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:980:
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55	GATCTATTTG TGCCGTCCGC CATTAAACAA GCGGCAAGCA TGATCCAAA TCATGAGAGT	60
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ACCCTGGGGC TTTCACITTC CAAGCCTTTA TCAACAAATC TGGTACAAGA TACATCCATC 120
 5 GCGACAGCAC ATATACCAGA ACGGGAAGC CGACAAGATG GCACTAGACT CTGGTAGGTA 180
 ATCTGAGITC GACCATATCC ACTTCGTAA TGGTGATAGT TGATAAAAAG AAACGATACT 240
 10 GAAAATTTTA ATGGTTACCA ATCTCATCTC ATGCCCATAC TGAAAGAATA TTGTAGGTCT 300
 CGCAGTGGAA CAAGGATCAA GCCCAGGCTA AGACAATAAT GGTTCAGCG GAGGCAGTAC 360
 15 AGGAAGTACC CCCAGATGAA GAAGAACTGG CTTTGGCTAA GCTAGTGTTT GCGACACAG 420
 CAGACTTCCA TGAAGGGCTG CGAAATGCAG ACCTTAATTA TGTTTCTTCA GATGAAGAG 480
 20 TATATGGCCA GGAGTCGTCC AGTGATGAGC AAGAGGGGAC TGAAATGGT CACCTGAATG 540
 ATGACCAATT GTTTTTTGIG GACGAGGGTG CAGATACCGA GGGAGGAGCA GATGGAGAAC 600
 25 GGAGGCCATG GAGGTGGACC AGGTAGCGA GGAAAGCGAC TCCGGAGAGG AAAGGGTAG 660
 CAGCGCTGCA TGGTCAGATT CGGATGACGA ACACTTAAAC GTTACAATAG GCCAAACCAA 720
 30 T 721

(2) INFORMATION FOR SEQ ID NO:981:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 638 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1604RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:981:

GATCCCTATT AGAAGAGGTT ACTGGGGCTC CAACTTGGT CAGCCACACT CTCTAGCCAC 60
 55

GAAGACCTCT GGTAACTCTG GTTCGGTCAC TGTGCGTTTG ATCCCTGCCC CACGTGGTTC 120

5 CGGTATCGTC GCGTCTOCAG CTGTCAAGAA GCTTCTACAG CTGTCTGGTG TCGAGGATGT 180

GTACACTTCC TCCACCGGTT CTACCCGTAC CCTAGAGAAC ACCTTGAAGG CTGCGTTCGT 240

10 TCCATTGGT AACACCTACG GTTCTTTGAC CCCAGACTTG TGGCCAGAGA ACCAGTTGCC 300

AGCTTCTCCT CTAGACGTCT ACGCCGACGA GCGCGTTGCC CAGAAGAAGA GATTCTAAGT 360

15 AGTGTGTGTA CATACCAACA GTTTGTTTCT TTGCACGTGA ACCGCCCCGC TAAGCCTTTA 420

GGCGCATGGC ACACAGACTG CGTTTGGGCA GGAGATGGT TGTCTTCCGA CGCTGGTACA 480

20 GCGCTGGGAT GCGGCTCTGC GCGTGGCGGT GCATATCGGA GATATGGGCG CGTGCCCGTA 540

CGGCAAAGAA TCAGCAAGAC ACTAGCGTCT GGCATTCTTT TTCAATGCAT TATTTAGCTT 600

25 TTTTTTTTTT TTTTTTTTGA GTATAGACAC ATATAAGT 638

(2) INFORMATION FOR SEQ ID NO:982:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1604UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:982:

50 GATCAGAGCA TCCGATGAGG TGGCACCGGC CCGTCCCGT GTGTCTTTCT TCGCGGTATC 60

GGCTTCCGAA ATACTTAGCT TCTCAATACT TGGGACTGCC TTATCTTCAG AGGAAGCGGT 120

55 AGCATCCTCA CTCCTAGGAG CGCCCTCTGC GCTGCTCTTA GGCTCCTCCT TTGTTGGCTC 180

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CTCCGCCCTTA GCCTCTTCTT TCTTCGGGAC AGGTTTCTTA GCACCAACTA GCTTGATACC 240
 5 GGAGCTGGAA GCCAACTTGA GGGTCTTCTT TGGTTTGGGA GCAGTGGCAT TGGGCACAGT 300
 TCCCTTCTCA AAGTTGTTC ACGTCACCG AGGGTGGCT GACTGGCCCT GTCCGTAACC 360
 10 ATAGCTCTGG TTCCCTTAC GGTTCCTCTG TGGCTGTGAG TTGTACTGCT TGTAGCTCTG 420
 ATACCCACCT TGGCATTGT ATTGCTGGTA ACCTTGGTAG CCAGCTGTG CTGGGTGTGA 480
 15 CTGCTGGTAT CCTGATAAC CCTGGTAACC GCGGGCTTGC TGGTTGTATT GGCATAGCC 540
 TTGGTACCA CCTGCCTGTT GGCCATACGC CTGGTAACCT CCTGAGGCA CATACCCTG 600
 20 GTAATTCTGG AAGTTACTTG GGTGTAGTA TTGGCCGAAA TTGCTGCC CTGACCTTGA 660
 TTTTGACCTT GATCCTTGGC TTGGACTGG CCTTGGTCGT TGCCTTGGGA 710

25 (2) INFORMATION FOR SEQ ID NO:983:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1605RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:983:

GATCTTCTCA AAAGTAGCAT TTACAATCTG CGTTAGCGTT GCTTGTGCAA TTCCCTGGTT 60
 50 GGACGAGCTT AGTGACAGGA TGAAATATT ATAGATTGT CTGACGCCCT TTAATAGTGA 120
 TGCACCGTGA CAATTGCAAT AAGGCTCATC TGTCATATA CAGCTTGGGA GGGCGGGAC 180
 55 TACCTGCAAC TCGACCTTCC CATCAGTGGC TTCTCCATCA AACAGTGG TTATGGTATC 240

AACGGCAGCA TCTATCAGCC GCATTCTTGG AGGTGGTGTA ACACCAGAGT CTGGCAACGT 300
 5 CGTGCCTTGG TCGTTTGATG CTGCGGAATT TGGAGGGTTG ACTAAACAT TCTCGTCTAA 360
 CGCCTTAAAG GCAAACAAC TTAGTAGACA ATCAAGAGCG CTAACTGTA TTTCTGGAAC 420
 10 ATTAGTTCTA CAGCAAGCAC GTAGTGCTC AAAGACCAAC AGAGAATCCA AAACTTTGG 480
 ATCGTTTTC GATTGCAGGA GTTGCTGGT CAAGTTTTC ACAGTTTCT CAACCAGTTT 540
 15 TTCAATTATTA GGATGTTGT GCATGGATTT TGCTTGTAGT ATACCTCTA ACCTTAGTTT 600
 CACAAGATGC ACTGCGGATT TCATGTCCA TGGACTACCA GAGACATTGG AATATGCCCT 660
 20 TGTGTGAGGC TTGAGATTAT CCTGCGAC 688

(2) INFORMATION FOR SEQ ID NO:984:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1605UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:984:

GATCAGAGCA TCCGATGAGG TGGCACGGC CGGTCGGCT GTGTCTTCT TCGCGTATC 60
 45 GGCTTCGAA ATACTTAGCT TCTCAATACT TGGACTGCC TTATCTTCAG AGGAAGCGGT 120
 AGCATCTCA CTCTTAGGAG CGCCCTCTGC GCTGCTCTTA GGCTCCTCT TGTGTGCTC 180
 50 CTCCGCTTA GCTCTTCTT TCTTCGGAC AGGTTTCTTA GCACCAACTA GCTTGATAAC 240
 GGAGCTGGAA GCAACTTGA GGTCTTCTT TGGTTTGGG GCAGTCGCAT TCGGCACAGT 300
 55

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TCCCTTCTCA AAGTGTGTCA GGTTCACCG AGGGTGGCT GACTGGCCCT GTCCGTAACC 360
 5 ATAGCTCTGG TTCCCTTAC GGTTCCTG TGCTGTGAG TTGTACTCT TGTAGCTCTG 420
 ATACCCACCT TGCGATTGT ATTGCTGGTA ACCTTGGTAG CCAGCTGTG CTGGGTGTGA 480
 10 CTGCTGSTAT CCTGATAAC OCTGGTACC GCGGCTTG TGGTGTATT GCGCATAGCC 540
 TTGTACCCA CCTGCTGTT GCGCATAGC CTGTAACT CCTGAGGA CATACTCTG 600
 15 GTAACTCTGG AAGTACTTG GGTGTAGTA TTGGCCGAAA TTTTGTGCT OCTGACTTG 660
 ATTTGACCT TGATCTTGG CTGCGACTG GCTTGGTGG TTGCTTGGG ATTGAATTG 720
 20 ATCTT 725

(2) INFORMATION FOR SEQ ID NO:985:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 678 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1606RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:985:

GATCAAGCAT ATCAAATTTC CGCAATCTG CGGGTCATT TTTTGGACA ACAGGGTCT 60
 45 CCACAGGTC CATCTCCATC AGCGAGCTA TACGTGGA CAGTGGCTC AGCTTGGTAC 120
 TCTGCGAGAG AATTGAGAG CCTTGGAGC TGCTGTATG GTAACGTG TCCGTGCGT 180
 50 AGGTGTCAA AGACAGGAC TCTGAATCT CCGATTTCG ATCCCGTTG CCGGTACGT 240
 ATCCGTGCGC CTGGACTTG ATGGAGTGG TGTCCGAGCA CGAAGACAGC GAAGGTAGTC 300
 55

TCAGTGGCCG CGTCGGCGAT ACGTCGTACT CGAGCACAGA CTCGTTGTGT CCCCTCCCGG 360
 5 TCATGTTCTT CGGCTCAGTT CGCGACAACG CTCGCGACCA TGCGTGCCCC CTCGCTTCT 420
 TTCTGTGGAA GCGCCCAAAC ATTAAATCTA GCTGCTTCTT CCTGGTACTC TGTTCGCTCT 480
 10 GTTTCGTGCC GCGAGGCCCC TCGATTCAA TCTCTGTACA GCGTTTATGC CGCACTTGCT 540
 CGTCTAAIT GGCTGCCACA CTCCTGCTGC TCGAACTAA GCGTCTGTA CGAAGCGTT 600
 15 TCGTGTACTT GACCGTGGG GCGTAATCTA TTATTGGAAC CTTGTAAAAG CCGGCTTCTG 660
 TACGCTATTA GTTAGGCC 678

(2) INFORMATION FOR SEQ ID NO:986:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1606UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:986:

GATCCGCTTG AGTACTGAGA TATTAAGTCA ATACCAGGAT AAGCTTTCAA AGCACGTAA 60
 45 TCCTACTGTG CAATGGTGGG GACCTACTGA TTCTCGCAC TACGTCTAG CGCCTGAAAT 120
 TTTATCATAC GTGTGCGAG ACGAACTGGG CTTGCAGAT ATCGATGAGG CTTGGACTTA 180
 50 CATGGAAAGT ACCACGGAAT ACGGGTTAAA TGTGGCGGAC GAAGAGCCTC TAGATATTTG 240
 GGAATTAGAA TACGAAGAGA AAAAGCTGCA ACGGTTAGGA TTAGGACCCA AGTACAGCAG 300
 55 CATGACTTAC AGAAAGCATC CTGCCAGGCC GTGGGCTGTA TTAGATACAT CCAAAAATGG 360

TTCTAAAGAG CATAAGCGTA AAGGAAAGCA ACACAAATTA AAAAAAGGAC AGCAGTCTAC 420
 5 AAAGATAAGG GTATCAAAAA AAAGGCGACG CSTACAACCA CACAGCATAT GCGATTAAATA 480
 ATCTTACAAT CGTACTAAGT AATACATACC GCGCTTATAG AATCTGCTGC TGCACGGAAA 540
 10 GTTGCATATG CGAAAACATG CTATGCAGTG GATGATCGCG TACCCTTTT TAATCCGATA 600
 AAAGTGGACT AGCGATAAAT AGTAATTTC AATAGGGAATG TGAATTTGAA TTGAGAATTG 660
 15 GGATAATGCT GTGGATTCTCT GTGATTATAA TACCATAAAT ATA 703

(2) INFORMATION FOR SEQ ID NO:987:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 622 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1607RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:987:

GATCACACGA CAGTGCCAGT CCGGGCAGCC GGTACCCGTT GCGCCCATCG TGAAGCTGAC 60
 40 TCCGAAGAAC CCCTTCTACA AAGTCCCGA GACGGAAGAC CTGTGACGG TCATGGGCAT 120
 CCTTGGCTCC GCGGTGCACC GTGTGCCAT TGTGGACTCC ACCTCTTCAT CTATCCGTGG 180
 45 CATTTCTGTG CAGCGACGTC TGATGAAGTA CCTGTGGGAC AACGCCCCGC AGTTCAGCAA 240
 CCTGGAGGTG CTGCTCAACT CGTCGCTGCA AAAGTTGGGC ATCGGTGTGC TGGATCCACA 300
 50 TACCCCTCCT ACTTCGGGCG AGTCGCGTGT TATTTCATT CTCGACACAG AGCCGCTGCT 360
 55 CGTTGCCCTG CACAAGATGC ATACAGAACG GATATCCTCC ATCGCAGTGA TCGACCAACA 420

GGGCATGCTG CTCGGGAACA TCTCTGTGAC AGACGTCAAG CAGGTTACGC GCACTCTGCA 480
 5 GTATCCGTTG CTGCACAACA CCTGCGCGCA TTTCATCAGC GTGATCTTCA ACAACCGCGG 540
 CCTGGAGATG GGCAAGGACT CCTTCCCCAT CTTCACGTT TACCCCACT CGTCCCTGGC 600
 10 CCGCACGGTC GCGAAGCTGG TC 622

(2) INFORMATION FOR SEQ ID NO:988:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 674 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1607UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:988:

GATCGGTGCC CGACCTCCG CCGATTCTT CGCAGCTCG TTGCAATGT TCGGTATGCA 60
 35 CTTCTGCTTC TTCATCCAT CCACCTCCGT CCGCGCGTG TCAGAGCTC GCTTGGCTGC 120
 GCGGCCACTC GTACCTGCTT GCGTTCTTC ATCTTCAATA ACTATCACTT GCATCCCGTT 180
 40 AGTAGCTGCA CGGTGCAGAG GGCTGTAAAC CTCCTCTCAG CCTTCAAAA CGCCCCACCA 240
 CATACTTCTT CGTCTCGAA TCATGATTGC CCTGGTAAT CTTCAGCTA GCACTAATTT 300
 45 GGTCATAAC TGGCTCTTG CGACTGGAA TTGGTGGTC AGATGGTGA GTCTCATGTC 360
 GTCCATTCTT GCGATGTTA AAATATGGGT TTCGAAAAA GCGCTGCTTG CCTTGAAGT 420
 ATGCTGACT CACAGAGGAC TCACGAGAC TTGAACCGCA GCCAGGAGC ATTCTGTCA 480
 50 TACCAGAAAG GCGCCACGGC GAGAATCAGA ATGATGTTG CATAGTCGG CAGCAAGAGT 540

GCTCCAGGCG TCGGGGTCCG CAAGCGCAGA TCCAACAACCT CGTGCCACAG CATCACAAGC 600
5 GGTATAGCAT GGCTTCCCCA ACGATTTCGC AGGTGCCCGA CTTCAGCAAG TATTCCCGAC 660
CTGGCCGGTT ACAG 674

10 (2) INFORMATION FOR SEQ ID NO:989:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 733 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1608RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:989:

GATCAAAACC ATCACCAGT TTAITCATGA AGTGTCGAC GATTTCAGG TCATCATAAT 60
35 CGACGCAATT CGTACTTTGT CGCTAAAGTT CCCAGATGAG TGAAGAATA TTCTATCCTT 120
TTTAATTGAC ACTTTGAAAA GTGCAGAGGG TGGGTATACA TTCAAAAATA ATATCGTAGA 180
40 TGGCTGTTT GACCTGATC AACATGTACC TCAGTCAAGG GAACAGGCTC TGGAACTT 240
GTGTGACTTT ATTGAGGACT GCGAGTTCAA TGAAATCTCA GTCAGGATCA TTTACTTATT 300
45 GGGTAAGGAG GGGCCCTCGA CAGAAAAGCC TTCGCTTTAC GTTAGACACC ATTACAACAG 360
AGTTGTCTTG GAAAATCAA TCATCAGATC TGCTGCTGTT AGCGCATTGT CCAAGTTTTC 420
50 CTCTCGAAG AAAGATCGT CGTTAGCTTA TTCCATCGAA AAATTGCTAA AGGGTATCCA 480
AACCAGTATG GATGACGAAG TGAGAGACAG GGCAACCATT CTAGTAAAGC TCCTTGAGGA 540
55 GAACAAGGAA AAGCCTGGTG TTGCCGATGA ATTTATCCAG CCAAAGCATA GTTACGATCT 600

ACTTGCCCTG GAAAAGTAA TTAACGAACT ATCTCCACCA TAATGAAGAT GGCTTTGCCA 660

5 CACCAITTTGA CCGGTGAGC ATTCCAAAGT TACACAGAAG AGGAGCTCAA GGCTATTAAAT 720

TTGAAGCAGA AAC 733

10 (2) INFORMATION FOR SEQ ID NO:990:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 723 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1608UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:990:

GATCTGGCCA AGGATAAAGG TGTTCATCAA GTCAITGTGA ATGAGCGCGG CAGCCTGTGG 60

35 CGCCTTAGTG CCATTTCCTGA TGGTCCATTC TCTGACTTCG TUGGGCCCGC AGGTGAAGAA 120

CGAGATCAGA TCCAGCTTCT GTTCATGGT GGTGATGATC TTGGGGAAGG CGGACTGGAC 180

40 GCGATCTTC TGGCACTCCT CGACAGCCTC CTCGGGCGTC ATGTGCGACA GTCTCTCCTC 240

CAGGCACACC GAGAAGGGTA TAATTAGATC GCCAGGGGAG TACTTGTGGA TCCACTCCTT 300

45 GATCTTCAAG AGGTGCTTGT TCTTCTTTCT AATGTAGTCC CGCTCCGATA GGTGATCAG 360

GTAGATGGAT GGCTTGGGGG TTAGCAGGAA CATGAGTTG ATGACCTCCA CCTCCTTGGT 420

50 GCTCCAGGAC TGGTTTGGGA CTCTCTGACC CGACTTCAAA AGCTCGATAA TGCGCTTCAC 480

CAGCTGGGCC TCCTCCTTCT TCTGTTTCAC CTCAGGGAC TGGCCGCGTC TCTTGGTGAT 540

55 CTTCTCCACG GCTCCAGGT GCTTCTCGC GAACTCAATG TCCTTCAAAC GCAATTCGGT 600

GTTAATGATG TCCAGGTCTC TGACCGGGTC GAGTCACCC TCAATGTGGA TGATCTGGC 660

5 GTCTCGAAG CAACGCACGA CCTGGTAGAT CGAGTCCACA GATCTGATGT GCGATAAGAA 720

GGC 723

10 (2) INFORMATION FOR SEQ ID NO:991:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 692 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 25 (A) ORGANISM: PAG1609RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:991:

GATCAGACGG TAATGGCGCG CATGCTGGCG CAGGTGGAGC ACGTATCTAG CGTCCATGCT 60

35 CTCTTGCTGT GGTGGCGCGG GCGCGGCAAG GGCCTGCTG CCGAGAAAT ACAGTAGGGA 120

TCTGTGCGC CCGGCAACCA GGGCAGCGG GCGCGGAAC AGCGCGTTT GCCCCTTAAT 180

40 CCGGACAAAC GCATATAAGT AGAGGCTTAG GCGCTGCTG AGGAGCGCA GAACACACAC 240

AAGGACCAAT GAACAGGATT ATCAACTTCC AGGAAGGCAG CCGCAGGCT CTCAGCGAGC 300

45 ACAGCATCTT CCCAGATGTG CTGGTGTCCT CTGCTGAAA CCGTCCATCA GGACACCTTG 360

TAGTGGAGTA CCGGGGCGAG TCTACAGCGG TGAAGCTGG GAACTTATG CCTGTGGAGG 420

50 CTACGCAGAC GGTGCGCAAC CTGATGTAA TCAAGACGA GCGCGAATC GTCAGGGAGG 480

GGACCTATT CACGCTGGCG ATGACAGACC CAGATGCTCC CTCGCGGTG GACCACAAGT 540

55 GGTGGGAATA CTGCCACTTT CTGGAACGA ACATAACGT GCGCTCGAT GACGGGTGT 600

CGCACGTGGT GCTAAAGGGC ACCCCGCAGG TGGAGCACAT GGGCCCTGGG CCGCCGGGGC 660

5 GGCACAGGGG CTCACCGGTA CGTGTGGTTG TT 692

(2) INFORMATION FOR SEQ ID NO:992:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1609UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:992:

30 GATCGAGAAG ATTTGGAGAA GGAAAGCGTC TTGGTGCTAG CCTGTGAAC CCTCCCGGG 60
 CTGGAAGTGC GCGATATACT ACATAAAATA CGTTATCCCT GGAATTTGTA GCATTAAAGG 120
 ACTTATGGAC TATTCTGTAT AACTGCGCTT CCGCTGCCA CCGTAGCAA TGCCAAACTC 180
 ACTCCGAGGC CTGCTGCTG GCCAACAAT CGGACTCAG CGGACCCGAG CCCCCAGTC 240
 ACGTGCCCCC CGCATTCGG CCCACATCAC TCGCTTGCC TCGCTTCGC ACCCGGCAC 300
 GCGACTCCG GCCCCGAGC CCCACGTGAT TCTAGTTGCA TAGGAACTA GGCTAAAATC 360
 ACGTGAAGTA ATGCGCGGC CACATCATAC CATGGGACAC GACCCCGACT ACCCCCCCCC 420
 CCCCCGCGG CGCGCTGCAC AGCAGCGGTA TACGGCGCAG GCGAGTCG GTGCGCGGCC 480
 TCTGAGAGGG CGCATGGCG CCGATGCTGC ATGGCTGCT CGGTGTTGCC GAAGATGTGG 540
 AGGCACGTAC GCGGCGAGT CAGTTACCG AAGTTACCC TTCTTCTGAT TAAATTTGGA 600
 55 CTGAAACTTA AAAGCGGTCA GCAGTGGCAA ATCCACGGTG AGAATAATTA CAGGAAACAG 660

CGGTGGACCA GCTGCGGAAC TAGACGACGG GTTGGTGTGG CAGGCATAGA AGGTATGTTT 720

5

(2) INFORMATION FOR SEQ ID NO:993:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 731 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1610RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:993:

GATCAATTTC CTTTGGTATA GTTGGCGTCC CAGGCTCGA GATAGCCCCA CATGATAAAT 60

30

TGCTATCGCA CATGATGTCC TGGTTGTCAT TGTGTGCAA ATTGCTCAA TCAAAAATGA 120

AACTACCATC ATCTGGTTTC ACTTTCAGTA AACTATCGTT TTTCTCTGTT GCAGGGTGA 180

35

AATCCATATC ATCCCGTAGA TATTCTATGT ACAGCAGAAA CGGAACCTTC TCTGCTGAGT 240

TCAACACCTG AGCTTCGTTA GCAGCAATAT TTACAATTGG ATGCAGCTTG CCTTCTTAT 300

40

TAGGCGGCAA CAGTGTAGGG ATATCTACCT CAGCTGCAA GTCCCTATTC ATGATAGAAA 360

GCTCAGCTCT CAATGAAGTT AGGCGAGCTT CAGTGGGAAC TTGGGCAAC TTCTTGATA 420

45

TGTTTTCTAG AGCAATCACA AACTGCATCT CCGAGCGGAA GTAATTGCC TTCAAGATTT 480

TGATTTTATG TGTGGCTGAT AACTGGAGG GCTCAGGTT ATAGATGTTT GCTCCATGCC 540

50

GAGATGTCTT CCGTTTGTGG CTCTTCTTTA AATCAFTGGA CGGAGACTGC GTGATGCTAC 600

CATTCCATG CTGCTCCAAT GATTGCTGAT CCTTATACGA GTGGAGTGAC GTGCTGGATC 660

55

GAGAFTCAG ATGCAAAATTA GGCATAGAGT TTGTGTATTC CTCTAGCTTA GCAACATGTT 720

TATCTTTGGG C

731

(2) INFORMATION FOR SEQ ID NO:994:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 729 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1610UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:994:

GATCGATCTG TACAGAGCCG TTACAACAGG CACTTGTAAG AAGCAATATC GTTACTTTTTT	60
TGCAATGTCAG TTTTTCCTCT GAGCCTGCTC AGCGGAGGA ATGAGTAATG GATACTTTGA	120
CGACAGAAA AGTGAAACT TTGAGCGGAC ATCGCAACCT GCTGTTAGT AGCACTAAG	180
CGCAGGTTAG CACAATGGCG CCAAAGGATA CGGCGGTGTC GGAGACCTCT ACGCGGTCTC	240
GCTATATCAA AAAGGGCAAG ACTTTAGAGA ATGACATTGA GCTACAGTGG GTGAGCCAG	300
CCACCGGGGA GTTCCCGAG GACCACAAG AAGAGGGGGA CTACCAGGAG ACGGAGGTCA	360
AGAGGGGGCT GAAGGGGGG CACATCTGTA TGATCGGGCT GGGGGGAG ATAGGCACAG	420
GCCTGTTTAT TTGATTGCA TCCCGCTGC GGACAGGGG GCCAGTGGG TCGCTGTTGG	480
CGTACATCTT CATCGGTACG GTGGTGTACT CGATCAGCA GTGCTGGG GAGATGGGA	540
CGTTCATTCC TTGACTCTT CGGTGACGGT ATTTTCAAAG CGGTTTCTGT CGCCTGGGTT	600
TGGCGTGGCA AACGGTATA TGTACTGGTT CAACTGGGG ATCAGTTTG CTGTGAGCT	660
TTCTGTGGTT GGCCAGATCA TACAGTACTG GACGAGCCG GTGCCAATCG CGGCGTGGAT	720

TGTGATTTC

729

(2) INFORMATION FOR SEQ ID NO:995:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1611RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:995:

GATCCATCGT GGTCGCTTC ATTACCTGTA ATTCCATGTA TATCCTGGCT ATGCAGTGCT	60
GGAAAGCTC CTCCAGCGCC TCTATTTTGT TATTGAGCTC CAAGTACTCC GCGAGCTTAA	120
AGGTCAACGA GAGCGACCTT GGATTGCACC TGACGGGAT CTCAAGGACC TTCTGTGCT	180
CGTTCTGTC CACAAACATG GCGTAGTTGT ACCATATCTC CGGGCAAAG CACATGTGCT	240
GCACAGCTG GCGGTGCAG TATTCCAGC GCTGGGCGAG CACGACTTG GCGAGGTGA	300
GCTTGTGTC CAGCTCCAC TGGATCCACT TGTCCAGAT CTGCAGCTG TACTCATGT	360
ACTGACGGG CGCAGGCAG TTCTGCTGT TGGCTGGTT TAGCTTCGTG GCGAGGAGC	420
GCGCAGGCC CTTCGTCAG TTCCAGCACT CCTGGTACAG CGAGCGGCA TTCATGTAGC	480
TGCGGAGAG CTCTCCGATG AACTTCCGG CCGTCAACTG GTTGAOCTC TGCTCCCACT	540
GCGTGATTT CTCCAGTAC CGCTCCAGC ACTCCACTG CAGGCACAGC AGGCGCTTGT	600
ACAGCTTGG CAGAATCTG ACCCGCTCT GCTCTCCA CTGCTCACC GGCTTCCACT	660
GCTCCA	666

(2) INFORMATION FOR SEQ ID NO:996:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1611UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:996:

GATCTAAGGG ATGGGTGACT GCTGCCGGTG CTCACAGCAG TGGCACTAG CTAGTAATGG	60
TGCGAAATCG ATCAAAGAGG GTGGTCTGG CGGTACAGGC AGAAAGCAAG CCGGCCGATA	120
CAAGTTCCAG TTCTACAAGC AACTGCAGTT CCAGGGTACG AGGTACCAGG TGGTGAATTC	180
GCGGCGGTAT CTGATAGAGC GGTACGGGGA GCGCAAGGCG GCGACGATCA GGTGGTTTGT	240
CAAGTGCATC CATCGGAAAA TCAACGACGA TGTGACACGG ATCAGCGACG AGCGGGTGAC	300
GCACGGGGTG TCGAAGTGGG AGAAGTCGAA GCTGTTCCTG CTGCTGGTGA CGCTGTGCA	360
GCGGGGCGGG CCGGAGTACT GGCTGGACAA GACGAACGGG TGCCAGAGCC GCGCGGGGGG	420
AGACGGGCGG CGGAAGAGCG ACCAGGTGGA GGAGGGGGGG AGCGGGGGGG GGCAGAGGCT	480
CGTCTGCACA CTGGTGGAGC AGATCATGGG CGAGAACATC ACGGAGGACT ACGACGAGAG	540
CGTGCAAGAC GAGAACTACG TGTCTCTGTC GATATGGGCG AACTTCATGG AGGGGTTGAT	600
AAACCACTAC CTAGAGAAGG TCT	623

(2) INFORMATION FOR SEQ ID NO:997:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 708 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1612RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:997:

20	GATCATGCG ATAAATCTCC TAGTGGTGIG GTTTCACAG AAGCAGCTTC CGTGGTTCTC	60
	GTGGTTTTC CTGCAGCTCT GTTCAGCTT GATTTTGGTG TTTTGGGGA CGTGGACCAC	120
25	GAGGTGGGCG GAGCTTCGGG ACAGTTTTTT TGAGGGTCTC ATAGATCAGG AACCTATTAC	180
	GGTGGGGCT GAGTCTCCTT ATCATGGCAG TTCTCAGAAC AGACAGCAGT TTGAGATGAA	240
30	GGACTTCGAG GCACAGAAAT AGCCTACATT ATAAATAAGC TTGAGATCAT TCTAGCGOCA	300
	CGTGAGACT GATCATTGGT AAATAGCAAT TTAATAAGT AATATATCAT ACGCTGGTTA	360
35	TTTCGGATGC AGGACTCCGA AATAGTCTGA CAATTATGTA CTGTTAAGTT ATTTATTTTC	420
	AGACGGGTA TCTGGCTTGA AACCTGTTC AGTCACAGC AGATCCAGCA GCTCGAATAC	480
40	TGATTTTTC GTATTGTTAC CTGGTCGACA GATCTCCAAG CCACCTCCA ATCGCTGCG	540
	CAGCTGCAGC ATTGCTACG TAGACTCCAG CCTAGTGACA AGATGATCCA ACAAGGATAT	600
45	CCAATGGTAT TCGTGTCTT GGCTCAGGCG TTTATCAACC TTTTATCAC GAGTCATATG	660
	TGTGGTAGT TGTAGGACAC TATTGTGAT TTCGATCAGA CCGCGTT	708

(2) INFORMATION FOR SEQ ID NO:998:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1613UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:998:

GATCAAATAG ATGTGGCTG CCACATAGGA CGGAGTCGG GCTAAGCTGT GTGTTTAC	60
TGGAGGCAAC TGTGGACTC CTGTGTCAGC AATGGCGCC CGACCTGCC AACAGCGAC	120
TATATAACAA GCGAGGAAAC CACCTTGTA TAGGCACGG GACCAACGAC ACAGCAACA	180
CACAGCAACG ATGGGGACC TCGGGCTCT TATTGACTTG ACGGGATAT CGGAGACGG	240
GTATGAATCG ACCAACCATC ATAGGATGAT ACACGGCGC AAGGGCTCT ACGGGGTCT	300
GCTAGTGGCA CAGGCGATAC TGGCGTGTT CTACTTTGTC CCCAGGACT TTATTCGCT	360
CTCGGTGCAC TGCCTGTCA TGGTCGGGG AGACAATGCT ATCAAGAGC AGTACGAGT	420
TGAACGGCTG CGGAAGGGGA GCAACTTGC GCACCTGTTG GTGGCGCGT ACCAGAAGGA	480
CAAGGAGCTG TTCACAATGC AGATCATCTA CCGGCGGAC CTCGCAAGC AGCGGACAC	540
GCTGCACCGC AAGGACAACC TGGGCGCTG GGACCGTCC CACCTGGAG AGCTGGCAC	600
GCTATGCAGG CCGGATCTAC TGTCGAACG TGAGAACCTG CAGGCGTGA GCGGTCTTC	660
GAGACGGATA AGGGCTTAA TAACATTCTG GAGGGGTTC ACAACAGTC GTCGAGTAC	720
AGGCTGCTG GC	732

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(2) INFORMATION FOR SEQ ID NO:999:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 727 base pairs

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(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1614RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:999:

GATCGCGCGG ATGGACCGT GCTTGGACG CCTTCTGGG CACCGCGGG CGTTCCTGGC	60
CGCGTGCAG GAGCAGGTC AGCGGGACTA CGGGCGATG GAACAGTTC ACAAGTTCC	120
CGACACGATC CGTGTGACA AGTTGGTCAC GTATATATG CGGTGTTG AGCGGTCTG	180
CGTGTACCG CGAACCAGC AGCGCTGCA TCTGAAGAC ATCATGCTCT TGGTGTGTA	240
CTGGGGGAG GCGGGGGG ACCCGCTCTT GTCATGGG ATGTTTCAG CGTGGCGG	300
ACGCTACGG GTGCAGAGC TCTCTGGA GCAGGTATG ATCATCATG ACGCAAGTT	360
GCGGGGCGA CAGTCATACT TGATGATCC GCTGGAGGG AACGCAAAG CGGCATCTT	420
CACCGCGGG CGCTGCTG ACACTATGG GCACACAATA CCCACATTG CGAACCCTG	480
GAGCTGGG CTGCCCCGT TCTCACTCC GCTACGAAG CGCGGGGTG CTGAGAAAAT	540
CTTCAAAGAC TGGTCCATCT ACTGGACAA ATCCATATG CGAGCATCC CTGATCACTC	600
GCCCAATGC ATTCTGGCT ACGTCCGCA CTCTGCAG CGATGGAG AATCCATCTT	660
TGAGTATTTC ATGCTCTATT GGAAAACGC AACAGCAAAC CACTCCAG AACAATTTT	720
CCACACC	727

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(2) INFORMATION FOR SEQ ID NO:1000:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs

55

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1614UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1000:

GATCCTTTTC ACCAACAGCT GTCTGGGCCA GCTGGGGCCT GGGATGAGCT ACAACGAGGC	60
AGTGAAAGCG CTGACGAACC TGGGCTGGA CAGCTTTACA CTGCGGGGA CGGTGGGTT	120
TCCGCTGAAC AACGTGTACT CTGTCCCGGT AGAGGACGGT GCTCAGATGG AGCTGCTGAA	180
GGGTACCTG CAGCAGTTGC GGCAGGAGCT GGCCAGCGG CTGCTGGACC GTGTGTATGG	240
GGCGAGAAG GCACAGCCCT CGAAGTTCTG GCTGGCCTTC ACAAGGGCA AGTTTATGAA	300
CAAGCGCTG TAAGCGAAA TAGGTACGTA GCTGGGGGG CCAGGAAGTA TTTACAAAGT	360
TGGCTGTATC GCTACGAGGT TTTGGTGGG TGTGCTTGT TGGAGCGAC GAGGAGTTCA	420
ACGGGGAAG CTCGAGCTG TTCCGGTCT TTCAAGATG CGTTCAGTC AATGCTGAGG	480
TGGTGTTTT TGGCGGGAA GCTTGGATC CGGCGCTCA GGTCTGTAG CGCTGGAGG	540
ACAGCTCAT AGTCTGCATC TTCTTTCAG CGCTCTTGT ATGTTTGGAA GGA CTGAGCG	600
ATGTCTTGA TACCGGGCTC GACTCTGCTG ATCATCTGA TGGCTGGG CAACAGCTGA	660
TGGGGTGC TGTGGCGTT CGGTGCTA ATCATCTGCT GGATTTGTC ATCGGTCAAG	720
CCCGAT	726

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(2) INFORMATION FOR SEQ ID NO:1001:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs

(B) TYPE: nucleic acid

55

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1615RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1001:

GATCATTCAG CTGGAAGTCA GCGACTACT GTTGACCCC ATATTCACCG TCCCCGAGGT	60
GCAGAACGAC ATGGTGGAGA TTCTGGGCCA GTATATGCTG GAGTGGGGC GCGCGTACAA	120
GCAGGGTTTC CATGAGCTAT GCGCATGTT CTACATGCAG CTTTACCGCA ACGGCTACCG	180
GGACGGCATC CAGCACACCA CGCTACATAT GTTCAAGGAG TTCATGCGAG AGGTAGCTGT	240
GACCTTCTAC GACGAGGGAA ACCTCATCGA GTGGACGAAG AACAGTTTG AACCGATACT	300
TGACACGGG TTGCCAGGCT TGTACGAGCA GCTTCTAATG CACCATGAGC TGGACAACCTC	360
GATATGGCTC ATCGCTGGA GCAGGCTGCT CTTTCTCGA GAGTTGAGC TGGAGTACAC	420
GCTTTGCTTG TGGATCACC TGCTGACATT TAGATACCCA GTATCCACG TGTAGCAGC	480
CATTATCGTT GTCTGTCTGA CACTCATGTT ACAAGAACTG CATTCTGTG AAGACCACGG	540
CGAAGTATG TCTATTCTAC TGCACTAACC TCCTGAAGC TGCTGAGGC CCGAGATGA	600
TCCGCTCCGC CCGAGCGTT CTTGATCTGT GCTGCGCGA ACAATAAGAA GACATGCAAC	660
TCATCTGCGA TTCACTAATT AAGTGCACA ACGGCGGCTG GTTC	704

(2) INFORMATION FOR SEQ ID NO:1002:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 706 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1615UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1002:

GATCTGGTTA TTCTGGACAA CATTGGGTAT AGGGACTGCT CCTGCTTTGT GTGAGGAGAC	60
GTGTGCTGAC TTAAATAAG TAGATGAAA CGGTACGCT ACGTGGGGC CCGTTTTTC	120
AGTTTGGCAC GGAGAGGGTA TCAAAGGAGG TGAACACAG CTACGTTATT GGTTCGTATA	180
GCATGCTTTT GAAGCCCCTA GCTTCAGAG CGCTCCGACC ATCCAGCCA CCGGCCCCCT	240
ACGCCAAGG CCAGCTCCCG CAATACGCCA GCGCGTGGG CCGTTTTTCG TAAGTATATA	300
TGGCGTGGCC GCGCGCGCG GCGAGGTGG CCGGTGAC AATGGCTTCT CGACTTGACA	360
AGCTCCCGA GCGGTTCAGT CGCTGCAGA GCTCAGCCA TAGACAGCTG CTCGTTCTGG	420
CGCAGGGGCT GTGCATCCCT GCGTGTCC CGTCCCTGCA CAAGGGCCAG AGTGGAGCG	480
TGTGGTGGT GGGGGGTGG CTGGAGTACA CCGGCGGCC GTACTTCAC GGCATGGCG	540
CGGCGTCAT GGGCTGGAC CTGGTCCAG TCGTGTGGA GTGGAACCT GCAAGCCGA	600
TCAAGGCTA CTGCGCGAC CTGATGGTGC ACCCGCACT GCGGACAGT AGCTCCCTGG	660
CGGCGGGCT GGAGCCCCC ACAGAGCCG TGGCGCGCT CGTGA	706

(2) INFORMATION FOR SEQ ID NO:1003:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 687 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1616RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1003:

10

GATCTGCTTC AAGAGCTOCT TCTGGTAGGA CGAGCCCAGG ATGAAAATCT TGGAGACGGT 60

GACAGGGTCC AGGAACGGCT TGAACAGGCG GAATGCGGCG GAGAAGCOGA ATGGCGCGTT 120

15

GATCATGTAG AACTTGCCCA TGGCTGGGG GTAGTAGTTC TGGCGATGT TCGAGGCTC 180

GCGACGTAG CTGAGCACT GCGCGCTGC GGAGATGGAG ATGCOCTTGA GGTCTAGGAT 240

20

GGTCAGGAC GTCTGACGA GCGAGTGGC CTGTCTGGAG CTGGCCGCCA AGCGGTACCG 300

CGAGAAGGAC TCGTACTCCC ATATCAAGTT CTTCAGCATG CGCTOCTGG TCGTGATCTT 360

25

GTACATCTCC GTCAGGTICA CCGCGCCCAG CTCTOGATG TACACGGGC TCCCGTCTT 420

GTCGTCTTG TGGTAGTACT GCGGGTAGAA CTGGCCACC AACGGCTTTT CCTGTAGTG 480

30

GAAGTCTCG AAGATCGTGT CCACGCGTT TTCCTTAGC CACTTCTGC AGTTCTCAA 540

CATTGCCCC GCAGCCGCC ACGTTGAAC TTGGCGCCC GCAGAAACG CAAAGCGTC 600

35

GAGTGTCCA GACGTTGGT GAATCGGCC TGCTTCAGCA CCTTGGCAG CTCTCCAGC 660

GCGGCTCG TGCTCGCTC CGTCAGG 687

40

(2) INFORMATION FOR SEQ ID NO:1004:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 685 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

45

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1616UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1004:

10 GATCACCTTT TGGCAGAAC GCCACAGAAA ATCCATTAGC CGATTCTGCC CGTTTCATTTC 60
 TGTACGAATG GGGAAATGAC TGTGCGCCAT GGCACAGGTG ACTATCGCAT TTGCTTTGGG 120
 15 GGGCGTGATG CCCAGATTTT CTTCAGAAA GCGGCCACCC TGCGGATAG GGCTTTACCT 180
 CACATGAGGC GCAAAGGAC AATAATGCA GAGCTGCTTC TTACTTCATT CTCTACCCCA 240
 20 CTAACGTAAT CGATCGGACA GGCACAGTCC TAAGGTAATC CTCTGAGATA CCAGATTGGG 300
 TTGCATAATG ATCTGGCTA CAGGGCGGTG TTTGTTGAG CCATATCTC ATGCAAGATC 360
 25 GCGATGCCCG TGAAGATCCA CCTTCACCAT TTACTCGTTT CTTTTTCATG TTTTCAAAAA 420
 GAAACGAAAA GGTGAGATAA AAAGCAAACA TTACTACCGA CATTTAAAT AGGTGATGTC 480
 30 CAGGACTGTA CCTCATTGTG GGCCTAACA GCACCAGCAA TGCTGTGTC ACCCCTTGTG 540
 CTGTTTGACT TTTCAACAGA CAATCCGAAC ACACTGCCCC GGAATACGA CCTTCAGTG 600
 35 GCCCGAATCT GTGTGCTGGG CCACGGGGC AGTGCAAGT CATCACTGCT TGCTCGATG 660
 GCTACACGGA CTGGAGAGTG GCGTG 685

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(2) INFORMATION FOR SEQ ID NO:1005:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 703 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1617RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1005:

5 GATCTTGACA CCAATCGACT TCCGGAACGC CTGAGTCAAG GCCTCGGTCT TGGATAGCTC 60

CAACGAGAAT ATCTCTGACC CTGCCATGCG TGTGAAGGGC ACATCTGGCG CCAGTGACTG 120

10 CGACAAGCCC ATGCCAGCG CGGTTTTGCC GGTGACGGC GGACCAGCAA CCAACAGGC 180

CCGCCCCGCA ATCGTACCGT TCTGCACCAT TTTGAGAATC AGCCTGCGG CCTCCGCGC 240

15 CTGTAAGTGG CCCACCATC CTTGCGAGCT CGGCTTAGGC TGTAGGTTCT CGTCCAGTCC 300

CAGGCCAACA ATGTGCGAAT GTGTGCAAT TAGCGACAAG GACTTCAGAG ACATGTCATG 360

20 CGCCTCTGT GTTTGAATCG ACATATTATA GATCTTTGAA ACTTTGAAAC CGTCAAGAGA 420

GTCCAATGGC CTTTGTGAT GACCGTCTAA CTGTTCAAAC GGTGTGCAA CATACCAAAT 480

25 TTTGCCGGAG CCGAGGACT AAAACGCATG TTATACGAAG TCAAGAAGAA GCATCGTTTG 540

AGCTGCTAGC AGTTCCTTGA CTCTCAACTT GGTGCGAGCG TGGGGTGTGA TGCTTCGCAT 600

30 GGGAGAGTAC ATATGTGGTT GCAAGCCACT TTGGAACCTG TGGGCTAACG ATGTACCAT 660

35 CACCGTGAAT GGAAGCGGT ACTTGGTGAC TGGGCTCTC AGT 703

(2) INFORMATION FOR SEQ ID NO:1006:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1617UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1006:

5	GATCAGTTTCG TCGAAGAATT CATGTCATGC AGAGAAATGG GAAGCAATTT ATGCTCAGCT	60
	CCCTCCCCCT GTTCTCTTTC TACCGCCAGG CCATGCAGGC ATGTCAGGCG CTCACACAC	120
10	CTAGTGACAA ACTCGCGGTT GTCTGACAG CCTATGCGTT CGTAAATGTT AAGGCCATCC	180
	GATGTTGGAA GAGGTGACAG AAATTCCCGC TGTAAATTCT CAAAGAACT GTCCAAGGC	240
15	GTATCCTTCA CAAAGTCGGG GCGCGCTGC AGCACATCTT CCAGCTTCCT CTGTTCCCC	300
	GAGGCGTTC TCATGCTGT GCGATTGCA CTTCCTCAGC TCGGCTCTG CAAGTACGTA	360
20	ATTTTAGCTA TCGAAAATTT TCCCTCCTGG CGATGAGCTC ACGAAGTCTA CATAACGATT	420
	GACTAAGACA CTTGCCACCC GTTTGCGGCT CATGCCACTA CACCAAGGAC CTCTGGACAT	480
25	CGAGGATCAA CTTGCCATCA TTGCGGAGC CGCATAGGC GATCTTGACA GCGTCAAGCA	540
	AATCTTTTCC GAGTCATCG ATCCAAAGCT CCTGCCATCG TGCAGCGACC CAGACAGCT	600
30	CTGCAGCGCG CTGCACATGG CTGCCGCCAA CGACACGGC GACGTGGCC GCTAACTGCT	660
	CTCGCTGCTC GAGCCCGCCG CCGGACGGGA CTGGGG	696

(2) INFORMATION FOR SEQ ID NO:1007:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 360 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1618RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1007:

GATCCGGCGT CCGGAAGAGC AGCTTATGCT GAAGGGCTAC CTAAGGACA CAATCCCCC 60
 CCCCCCAAA AAAAAAGCA TGAGACTCTG TATCAGTAGG AAGTCTATCG CATCTTCTTA 120
 TTTAGCCTGT ATATGTCTT TCCGGTGTA GACAKTGGT TGGACGAGTA TGCTCGATGC 180
 GGAATATAAC GTACTTTTTT GAAGAGTAAT ATGGACTTTC GACCTGCAA GTACCGTCTG 240
 CCGTTCGGT GTCAGACACT CATCGGAACG CAATTGTTGC GCGATCAAG TATGCTTCTG 300
 TTGTATGCTA TGGTAGCTAT AGGGTCTGGA CCGCTATCCA GAGAGATAIT ATCCATTAA 360

(2) INFORMATION FOR SEQ ID NO:1008:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 637 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1619RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1008:

GATCAACAAT GTGCGCGGC TGCTCCTGTT CCGCGCGGC GGTGATCTGG ATAGCTACGA 60
 GCCTCTCGG ATTCGCTGC ATACAGGCGG CGACGGGTG CCGCGATCA TGACACCT 120
 CAAGAGTTAC ACCGGCATCG AAGACTTCGA GTACCAGAA CCAGTGAAC TGGGCCAGTA 180
 TGCGCTATC CTCATGATG CCGTCCCGT AGTAATCATG CTGCGCACT ACTGGTCGT 240
 TGTGGTGTCC ATCGCCCTTT TCCGGCTCT GTGGGGGTTT TCCTGGGTGT CGATGTCAT 300
 CGCACTTGTG AGCGGCGGA TGTTCAMCA GATTAAGGAC ACTCCCTAG TGGCTCGTC 360
 CCGTATGGC AATTACGTCC AGTACTTCG AATCAGGAG CAACAGGTT AGTTGGGGT 420

GGAAACTCAA ATCATCTCCG TCATATATGG CACCCTCAGC GCAGGAGTGG TACTACTTGC 480
 5 CATTGGCACC AAAAGCATCA GAGCTTACTA CATCAAGTAC AACTATAGCA TGCACCGCGT 540
 GGTGCACTTG TTGTTGTCCC TCGCCGCAAT ACTGCCTATC TATATCTCCT TCGCCGCCCT 600
 10 GCTCCGAGTC TTCAAACCTGA AGAACTTTGA GTATTCA 637

(2) INFORMATION FOR SEQ ID NO:1009:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1619UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1009:

35 GATGCTTGC TGGAGACCAC AGATTTTCTA GCGTTGTGG TAAGGGGAG ATGGGGTGA 60
 CAACCACGGA GGAAAAGCTC ATGAAGCTGA ATCCAACAGC TACAGATGG AACAATTACA 120
 40 TTAATACTGA TACCACTGG AGCAAGCCG CTCACCTTC GTCAACAGAG GCTGGACAGG 180
 CAATTGAACG AGAAAAAAAA CTAGACCGGA GGCAGACTGA GAAGGACAGT GTAGAGAGCA 240
 45 GCAAGGTTGA GCGCCCCGTA GTAGATGCAT CGTACGTAGG GTGGAAGCAA ATCGGCGGGT 300
 GGAAGAGGG CGACCGACTC ACCGAAGATG ACCTGCCTG GGAGCTTGAC AGAGAAACCT 360
 50 TTMTAAGCCA TGTGCTGCCT GCTGCTGGT ATGGGACTG GTATCACTCC GTGGGGATAT 420
 TCTTCTCGG CGGATTTTCA TCGTTTGGT TGGGCTACTT CAAGTTCAGT TTATCACTG 480
 55 TATTCTTGGT AATGGTTTTC ACGGCTTTGC TATACCGTAC ATCGATTGG AAGTACAGAG 540

GGTUGATAAG GGAAGCTGGT CAGAAGGAGC TCACAGTGCA GAAAGTAGAG GATGACTACG 600
 5 AGAGCATGGA CTGGCTCAAT AACTTCTTGG ATAAATTCTG GACCAGAATA GAGCCCAACA 660
 TTTCGGTGAT GGTGTGGAT CAGGTGAACC ATGAATTGGC TAAGAACCGT CTGTGCGGGG 720

(2) INFORMATION FOR SEQ ID NO:1010:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1620RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1010:

GATCAAACTA TTCTCTGTTT TGTTGGTGGG AGCATACTTT CGTCAGTACT AACTTCTTGG 60
 35 CTCCACTCCA TAAATTGGTA TTCCCTATTG GGATTAAATT CCGACCCAA GGTAACGACC 120
 AAAAACATTA GAGCAATAGA TCCCCACACA AAATAGGCCA TAACTCTACC ATAATCATA 180
 40 AATTCCTTAT TGCCATTATC GAGTGAAAA TTCTCTGCAA GGCTGCTTTC AAGCAACGAT 240
 GAGGGGCTAG ATGCCAAGTT TCCCAATTGA TATGCCAAGC CCACGAAAAA GGTCTTGGTG 300
 45 TCTGAGTTTG GAGCTAAGCA GTGTAAATGA TGTGGACAA GGCCCATGC TCCTTGAACA 360
 AAAAAGTGTG GGAAGAACAC GGACACTATA ATACTCTTAT CATGTACAAA TCCCCACGGA 420
 50 TAAACAAGAC AGGCAGCCAA CAAATACAC ACGAGGATAA CAACTCTTCT AGAGCTTATG 480
 CTGAAAAAAC GTGAAATGAA AAGTCCACCT ATTATAGCAC CAACGTTGGC TGCACAATTT 540

GTGACGGCTG ACTGATTGGG AGAATAACCA AGTTGTTTAA TGAGCATGGT TGGAAAGAGA 600

5 TCTTGAGACG CATGAGAAAA GTAATTATAA CCGTCATAA GCAATATCAT GTAGATGACA 660

ATGT 664

10 (2) INFORMATION FOR SEQ ID NO:1011:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 727 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1620UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1011:

30 GATCAAAATAA AAATAGAAAT TAGCTTAATG GTAGAGCATT CGTTTTACAC ACGAATAATT 60

35 TGAGTTGCAT TCTCAAATTT CTAAATAATA ATTAACAATA ATTTAAATTT GGGTAAAAAT 120

TAATAAATAT TAACGTATAT AATAAATATA TACTTTATAA AATTACTCAA TGTATTATAT 180

40 AAATTTATTT CTTATCATTATAAATGATGT ACCTACTCCA TATAATATAT ATTTTCAAGA 240

TTCCTACTA CCTCATCAAG AAGGTATTTT AGAATTACAT GATAATATTA TATCTATAT 300

45 GTTACTTGTT TTAGGTTTAG TTCTCTGAAT AATAATTATT ATTATTAAAG ATTATAAAAA 360

TAATCCTATT CTTTATAAAT ATATTAAACA TGGTCAAATA ATTGAAATTA TTTGAACTAT 420

50 TTTACCAGCT ATTATTTTAT TAATAATTGC ATTTCCATCA TTTATTTTAT TATATTTATG 480

TGATGAAGTT ATTCACCAG CTATACTAT TAAAGTTATT GGTTTACAAT GATATTGAAA 540

55 ATATGAATAC TCAGATTTTA TTAATGATAA TGGTGAAACT ATTGAATATG AATCTTATAT 600

AATTCCTGAA GAATTATTAG AAGAAGGGTC AATTAAGAAT GTTAGATACT GATACTAGTA 660

5 TTGTATTCC TGTTGATACT CATGTAAGAT TTATTGTTAC AGCTOCTAGA TGTTATTCAT 720

GAATTTT 727

10 (2) INFORMATION FOR SEQ ID NO:1012:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 665 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1621RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1012:

GATCCACCCA CCGGTACCTC CTACTTGGCC GTATCTGGGT CTCGGTGGCG CTTCGCGCTG 60

35 AGATGCTGTG GGGCGAAAT GTACTCTCAA ATGGGCTTGT TCAGTGGCCC ATACAGCTCA 120

TTAAGCTCAG TGGCCCCGAT GCTTAGTAGT AGCTGGGCGG CTCTTCATAC TGCTGTCTTG 180

40 TATTATTCAT CTTCCTGTAT TTTCTCTCTG TGTCGCTCA CGCCTGCAGG GGGGACTGCC 240

TGGCGGCGGC CGCCTGTCTT GCTTTCTGGT CTGCTGTGAA AATGACAAA CTCCAAAAAA 300

45 TCGAATTTGG CGGCCCCGAC AGTTGATTAA GCTCGGGCAT CTCTATTCTC TATAAATTGT 360

TAAATTAAAC ACACTGTGAA GCCCTGCAAT CCGCAGCGCG CCGCAGTCA ACTCTTGGTC 420

50 ACAACCTAGC CCGGGGAGTG CAGTCTCACA AATACAAGGC CTGGGATATC ATGTACTGAG 480

GCCTCCTGAA CGTTTTGGCT TTTTCTTAAA ATCGCTGTTC ACAGTCTTAG CGCAAAAAAA 540

55 ATAATTAAAA AAAAAAATGT AAAGTCTTAG TGAAATGAAA AAATAAAATA AAATAGACCG 600

CCAGCTGCAG AACACCTCTT CAAAGCATAT AACTAGCATA CGCATAAACA TATGCTTGTA 660

TACTC 665

(2) INFORMATION FOR SEQ ID NO:1013:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1621UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1013:

GATCTCTTGG TTCTGCGATC GATGAAGAAC GCAGCGAATT GCGATAAGTA TTGTGAATTG 60
 CAGATTTTCG TGAATCATCG AATCTTTGAA CGCACATTGC GTCTCTGGT ATTCCAGGGG 120
 GCATGCGTGT TTGAGCGTCA TTCTCTCTC AAACCTCTGG GTTTGGTAAT GAGTGATACT 180
 CGGTGGTAAG ACAAGGTAA CTGAAAATG CTGGCCATGG GCGGAATTG CCGGACTGC 240
 GGTCGAGCT AGTTTCTACA CTGGGTATTA GGTTCGACC AGATCGTGA GTGGAGCTGG 300
 CGCTGAAGA ACGTAGACA AACAGGCGT TCCAGGCGAA TAGTATCCC AAAGTTTGAC 360
 CTCAAATCAG GTAGGATTAC CCGCTGAAT TAAGCATATC AATAAGCGGA GGAAAAGAAA 420
 CCAACGGGA TTGCCTTAGT AACGGCGAGT GAAGCGGCAA AAGCTCAAAT TTGAAATCTG 480
 GCGCTTGG CGTCGAGTT GTAATTTGAA GAAAGTACCT TGGTTGCTAG TCCCTGTCTA 540
 TGTTCTTGG AACAGGAGT CATAGAGGT GAGAATCCC TCTGGGGGG GTGCTAGTGC 600
 CATCTAAGT TCTTTCGACG AGTCGAGTG TTTGGGAATG CAGCTCTAAG TGGGTGGTAA 660

ATTCCA

666

5 (2) INFORMATION FOR SEQ ID NO:1014:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1622RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1014:

GATCCGIGIA TTTTITATTT ACATTATTTA ATTAAAAATA ATGATTTTAA TAAATATTTT 60
 TTATAAAAAA TAATTAGTGC ATTGTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120
 ATCAACTAAT TGTATATAT TTATTAAATA TTAATTTCAC TTAATTAAGA ATTAGGAAC 180
 TTATCTATTA GTCIGGGCTG TTTCCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240
 ATATTTAATT TTAGATTAA TAAATATTTCT GAGATTTAAT ATTTTAAATA AAATAAATAA 300
 TTATTCCTA AATAATATTA ATAACATATC CATATATATC TAATATTTAA ATAATCATAC 360
 TAACATATGT TTAGTAGAAA ACCAGCTATT TGCAAATCAG ATTTGACTTT CTCTACTTAC 420
 CATTATTCAT CAGATAATAT TGCTACATTA ACCTGTTCAA TCGTTTTTAT ATTTTATTAT 480
 ATTTTAAATA TAATAAATAT ATATTTTAAT CATTGATAA TAGTAAGATC ATCTGCTTTC 540
 GGGTTAATTA ATATTAAC TAATTAAATT ATTTTAATTA ATTTTAACAT TGTAAATAT 600
 TTATATTAAT TTAATATCA TTTTITATTT TAATATTATG CTAATATTAA TTAATTGCTG 660
 ACCATTATA CAAAAG 676

(2) INFORMATION FOR SEQ ID NO:1015:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1622UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1015:

GATCCAGTTA CTTAGTAGAA TGATAAAATT AATAAATATT ATTTATTAAT ATTTGGTTAA	60
CAATAAAATT CAATAATTTA TTAAATAAT GATTAAATAA TCTCAATATA AAATTATTAA	120
TATAATGAGA TATATATTTT TAAAAAGAAAT ATATAATTAA ATAATCCCAA CCAAATTTG	180
TOCCAGCAGC TCGCGTAAGA CAAAGGGGGT TAGCGTTAAT CGTAATGGCT TAAAGGGTTC	240
GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA	300
GTAAAGATGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA	360
TTAATTGACA TTGAGGAACG AAGGCTAAAG TAGCAAATCG GATTGATAC CCGAGTAGTT	420
TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA	480
AATTAAAGTA TTCCGCTTGA TGACTACGTT AGCAATAATA AAAATCAAAA CAATAGACGG	540
TTACAGACTT AAGCAGTGGG ACATGTTATT TAATTCGATA ATCCTCGATA AATCTTACCA	600
TTTTTTGAAT ATTTAATTAT AATAATTTAT AATTAATTAC AGGCGTTACA TAGTTGTCTT	660
CAGTTCGTGC TGCAAAGTTT TAGAATTTAT CATAAAGGAA CATAACTCTA AATATTTT	718

(2) INFORMATION FOR SEQ ID NO:1016:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1623RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1016:

GATCACAATC GCATGGTATG ATCGTTTITAG AATCAACGAA ATATGACAAA ATGAAGGAAC 60
 ATATTGCCAT AAGGACTTCA GGTATTACAG TOGCAGATAT TCTATCGAAG TCCACTGAGT 120
 ATGGTTTITAGT ACCTATACCA AAAGAACAAT TTGAACAGAT TAAAATGGAA TTAGAGCATC 180
 CAAAGTTTAC TAGAGAGATG ATTGTTGAOC ACGCTGGTGA CTTCGACTTA ATTGCAGTGG 240
 AATTAAAGGA ATACAATGCG CTCAAAAAGC AATCGCAGTT CTCCTTTGGT GACATTTTGG 300
 ATAGCAITTA CACTGACGAG GAAAGTGAAG CATCTGATTT TGAATATCAT GATGACGAGA 360
 TAAAGCAGCT TAACAAGACA GCCAAACGCT TTGGGTTATT ATGTATTCCA GAAGCTGGT 420
 TTATCGCTAC TTCGTOGCT AGCAGGCCTG ATGTGATAAA TGTCGTGTG CTACCAATAA 480
 GCTACTATAA TAAGTTGATT GCGAATGAAG CAAAGAGCCT CGAAAAGCTG ACTGACTGGG 540
 ATCTTCAGTC AGAAGCTAAA AAACGTGGCT ATCATATAAA TTTCAGCTTC CAGAAGGAGG 600
 ACGCCCCACC GCGGCTTCA ACCCTATGTC CTCACGGAT GCGAAGTTT TCCCCAAAAC 660
 CGTTGACTTT TGTCAGTAGA CTCAAAACT ACTAGAAGGG CGTTTAATGA GGCTGCTACT 720
 GTGCGCGCAC AGAGCGAATT TGAACAG 747

(2) INFORMATION FOR SEQ ID NO:1017:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 758 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1623UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1017:

GATCAGCGCA AAACACATCT GTATTCCCAG CAGCATGTCC TCCTCCACCT GCGCATGGC 60
 CTGGCTTGCA AAGCCGTCCA CCTCGCGGTC AAATGAAATG CTGTCCGGAA TATTCTCCAG 120
 TTTCGCAACC ACAGGGTTC CGTGCTGGTC GTACTCCTGT TCCTCATCCT CCTCACTGC 180
 CTCGTCTCCG CCGCGCAGT CCCACGGCCT AATGCTCAGC TCGGAGCCT CCTGGGGATA 240
 CCGCTCCGGC AGCGTAATGT CCACCACCAA GTGCTGCTCC TTGCTGATCG CAGCCGCGGT 300
 GAATGAAGAG CTGCCAGCG GGATCAGATC CAGTTTTAGG TCACTTCAA ACTGGATTTT 360
 CCGGTACTCC CCGCACCA CCCTCAAGTC ATCGCATAG ATGGACTCAA GCACTTCCAG 420
 CTCCTGCTTT TGCTCCTCT GATAGTCCAT ACCTATCCG TGAACCACT ATGAGCCCAC 480
 GCGCAGCTTA GGGCTAGACC GTTACAGCTG CAGGTGACCG TCCGGGGAC GATGCGCTAT 540
 CGCTGGCGAA ATTTTTCGCC TATACCACCA CTTATGTTAC CCGGTCTATA GTGCTGCTCT 600
 CCGACTTCAC TGATGGTCT GTCCCGGGG GACTCTGCC TGTGCGGGC AAATCCCCAC 660
 CGCTCTGAAC GCTCGTCCA TCTCGGTCAC GGGTGAACG AACGGGAATT GCGCGCGCG 720
 AGAAATCTTG GCGAACCATG CTGCACTTAG CCTTACTG 758

(2) INFORMATION FOR SEQ ID NO:1018:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 690 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1624RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1018:

GATCGCAGCT CATTTTACCT ACAGGCTGGG CTTTGAAGA AGACGCTGC ATGGTACAAT 60
 GTGCTAGCCA GGATCCACCC TTGTACCAAG TTGCGCAGAG AACCGAAGCT GCATGAOCCA 120
 GTTAGCGGCA AGTACAAGGG CGAGCTGGAT ATAATGACGG ATAGATTAAA CAGAAACACA 180
 GAGACGTACA AGACACGGGC TGGGAGTTCC GACCGGCAGA CGGCGCGGT GCACAAGCCT 240
 TCTAAGCTGC GGTTTATCGA GGACAAGCTG CGGTGCTGT TTTCCAGCA GCATCCCTGG 300
 GAGCTGTGTC GCGCGAAGGT GCTGGTGGAG AACATGGGAA ATGAGCAGTA CGACTGGTGG 360
 CGGATGTGTC AGCTAGGCAA GCGGCTTGAC GGTGAGTCTG TGGTGCAGCG GACGCTGTAT 420
 CTGCTGAAGT CCGGCGGCGA CCGGGAGATG CTGGGGCAT ACGACAGGC GCGGTTTGAG 480
 TTCTATCGTC TGAGGATGCA GCAGGAGCTG GAGGAGCAA TAGCGTACGA GGAGGCCAGG 540
 ATGGTTGGGG CTGTGTTCAA GACAACGGCT GTGGAGCAAG GTCTGCAGCA AGAGCAGAAG 600
 GTCTCGACA AGTGAAGGA GGACGTGGTT GCGGGGTGTC AGCTGATGTC TCGAAGAAG 660
 AACTCTACAA AGCAGTCGTG GCGCGAAGCC 690

(2) INFORMATION FOR SEQ ID NO:1019:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 742 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1624UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1019:

GATCATATAT CTTCCTGTGG TAAGGTCTGT GGGAAGCAGC TCTCTGCGG GAATCACACT	60
TGTOCCATGA CCTGCCAAGA TGTTAACTGC ATGGATCCAT GCTCTGTAT AACTGAGCAG	120
AAGTGTGCAT GCGAACAGAG GCGTTTCCTT GTTCTTGCC AGTTCOCCCA TTCCCAAGT	180
TGCACTGCAA AATGTGAATC ATGTATGTCT TGTGTGCGC ATCGGTGCGC TGAAAGATGC	240
TGTTCCGGTA GACCGCATTC TGTCAGCGG AACTCTAGGC GCGCGCGTGA GAGTCCAGAT	300
GATGAATCTG AAGTTGAGGC CCAGCACGTG TGCTTAAAAG ATGTGAATCG GGTGCTGCTT	360
TGTGGTATCC ACATGTGCAA TTACAAATGC CATGCAGGCA AATGTCTTCC CTGCTTAGAA	420
TCAGATTCCA ATGACCTTAT CTGTCCCTGT GGTAAGACAA TGTACCCAGC CCTGTCCGT	480
TGTGGAACAA AGCTCCCTCG CTGCACTCAT CCATGTGCAA ACTGCTGCT GGATACTGG	540
CCTGCGGAC ACAGTCCACC TTGCATAAT TGTATCCCT TAGATGAACC TTGCCCCCA	600
TGTACCATCA CAGTCAAGAA AACTTGTGCG TGCGGTAAAA ACGAGATCAG GACATTCTGC	660
TACAATGATG ATGTGTGTG TTGAGACCG TGTAGAAGC CATGTCTCTA TTGCAATCAC	720
TTCTGCCAAG TTCCCTGTCA TT	742

(2) INFORMATION FOR SEQ ID NO:1020:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 725 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1625RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1020:

GATCAACTAC GAGGACTTGA CGACCGCACG ACGGGAGCTC GCGGCGGCGC TGGCCACTTT	60
GGAGAATATG TAGCGCACAA CATCAGCAAT GTTACAGTAC AGAGTCTAT CCGTGGGGTA	120
CGGCTATGAT GAATAGAAAT ATATACACAG CTGCCTGCAG GCAGCTTAGA AGCGCAGAGG	180
CTTGGGCTTC TCCACGAGT ACTCTGGTT AGTGAAGTGC CCGTACGAGG CGGTAGGTAG	240
GTAGATGGGC TTGGCGAGGT CGAGCTCTTT GACAAGAACA CCTGGTCTGA GGTOGAAGTT	300
GTTGGGATG ATCTGATCA GCTCGTCGTC GGACTTGGTG CTGGTACCGT AAGTCTCGAC	360
GTGGATGGAC AGCGGCTGG CAATACCAAT GGGTAGGCA AACTCAACCT GCACACGCTT	420
GCACAGGCG GCGGCCAACA GCGACTTGGC GACCCAGCGC GCAGCGTAGC CAGCGGAACG	480
GTCGACCTTC GAATAGTCTT TTCCGAGAA CGCACCGCCA CCGACCGCGG CGGCACCGCC	540
GTACGGGTCA ACAATGATCT TTCTACCGGT CAGACCTGCG TCACCTTGTG GGCACCGATC	600
ACGAAGCGGC CGAAGGCTGC AAGTAATACT TGGTGTITTC GTCTAGCATG TGGCAGGGA	660
TGACCTTGCC TACGATGCGA TCGCGCAACG CGGAACGCAG GTCTCGGTG GAGATGTGCT	720
CCGCG	725

(2) INFORMATION FOR SEQ ID NO:1021:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1021:

GATCTGGCTC TGGCCCATCC CAAACAACCT GGGTGTGAC AAGAAGTACT ATGATGAGCA	60
CAAGAAGGAA TGGGCCATGT ACCAGGAGAT GATGAAGCAC TATGCCAAGC AGGACCTTGT	120
CGACACCAAC ATGCAGGGGG GGTTTATGTT CCGGCGGCA CTCCACGAAA TAGAGCTGGA	180
CAACTTCAG CTCGGGTCT ACAAGGAGCT CGTAACTAGC ATGTTCCCT GACTTCATGG	240
AGTCCAGCAT CGCCCATGTT TTATGCCAA TACTTTTGAG ACTATACTTA TATTATATAC	300
TGATAAACAA TTTCGGGGC TCTCTCAGC CCACTACTTG TTCTCCGGT AGAAGAAGTT	360
CACGGCCATC AACTCGAGGT TCTTCTGGC CGCAACTCG CCACACCCA CAGGGGGGCG	420
CTTCTGGTG TAGCCCCAGT TCAAGGACT CTGCAGGGG GTGACCTCT OCTGGCTCAG	480
TTCTAGCCGC CCGGGCTGCC GAAACAACAA CCACAGTAC CGGTGAGCC CTGTGCGGC	540
CGGCGGGCA GGGCCATGT GCTCCACTG CCGGGTGCC TTATAGACCA CGTGGACAC	600
CCCGTCATC GAGCCAGG TTATGTGTT TTCCAGAAAG TGGCAGTATT CCGACCACTT	660
GTGGTCCGAC CGGAGGGAG CATCTGGGTC TGTCATCCC AGGTGAATA GGTCCCTCC	720
CTGACG	726

(2) INFORMATION FOR SEQ ID NO:1022:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 643 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1626RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1022:

GATCGTGGG GACCATGGGC AGATGGGGCC CTTAATATAA GCGCTCTCTC GCAGGCATGA	60
CGTCTGCCAA CTCGACCAT TCTAAATGGC CAGCTGCTGC TTGATGGTA GCGTCGGCG	120
CTGGGCGAGA AGTAAATATA GCCATTAAAT CCGCTTCTAA ATATACATTA CATACCAGCG	180
CTCCAGAGGC GCTCCGAGG CGCTCCGAG GCGCCCCAG TCTGCGGCA GCGAGCGGC	240
TGCGAGCTGG CCGCTGGGC AGCAGACAT GCGGCGGAC GCGGCCAGT TATATACAGC	300
CTGGCGTGC TCATATGCAG ATGGGTCTGA GCGAAAGAAG TTCTGCTC TCGGAGAAGC	360
AGTCGTGTG ACCCTGGGC TCGCGGCCA ACCGCGCAGC AGAGAATCTT CCAGCGCTTC	420
CGCGGACCC GCACTGGGG TACCGTGCA GGTAAAGATA CTTCGGGCG GCGCGGCAC	480
CACCGCGTC AGCGTACTT GCGCAACGC CATAGCGAGA GGACCGGCT GCGTCGGC	540
TTTCGTGCT GTGACGTGA TCTACCGC TGCTCAGC GCGCTGTCA ACGATGCGCA	600
CCAGACCGTC CAGAGGTGC CTTCGTGCGC AAGTCGGAGC CCA	643

(2) INFORMATION FOR SEQ ID NO:1023:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1626UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1023:

GATCCATGCA TATTTCGAA CTTACGAAA AAGGCGTGAA GAGGCGGAAC GTAATCTAGG	60
TTTGAAGAA TTAATGAATG ACAACATAGA CCTTGTTCAC GGAGAAAATA ATGAAGAAAG	120
CCAGCTGAAA CAAAAGAAGT TGTTAGAGGA GCAGTTGGCA AAGTTGGAGA AATCAAAGGA	180
AAGACGACAA GCAAGCAAGG CCGGAAGGA GAAGAGCAAA GATGGCAAAG TCGTGAAAGT	240
AAAAACACC ACCGACGCT GCGCAACATG CCGTGGGATC GGCATATCA GAACTAATAA	300
ATCTTGCCCC ATGTACAATG GTGGCGTTGC AGCAAACGA AACGCAAAG CGAATGGGTC	360
GAGTGCAGCA GCTCAGGTT CTTCAGGGAT GGCCTCAAAT AATAGGCTA CCAGCAAGTC	420
TATAACTCTT AATGCCAGTA TTCCGCGAC TTCATTGAC TAGCTGCAG TATAATATAT	480
ATCTAATATG TACCAATTGT ACTTCTTTTG ACTGCTATAG AACTTTCTCC TCTTCTTGCA	540
TCACATGTGC AGCACTGCAG CACCGTGGC CTGCAATAC TTATGGACG CGGCAAGGTC	600
GGCTCGTAT CCAGGTACG CTATGTATCC TGGGGACCC TTATTGGTC GCGACAGGG	660
ATAGTGCACA GACTCCACAG AAGTGTCTC TACAATGCAG AAGA	704

(2) INFORMATION FOR SEQ ID NO:1024:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1627RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1024:

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10  GATCTTCCTT GAATTACTT AGCAGCTGT TAATTTCCTG CTTCCTCTGC TCTCTAAGCT    60
    GGAATCTGTA AAAGTCTGTC TTGGCCTTCT TGTCACCAT GCTGGGAGGC TTCTCCTTCC    120
15  GTGTATGCTT AAGAAGTGA TTGCGGTTC GAATCCTACG CCTTATGGAG TTTAAGATT    180
    TTGTTCTCTT CCTACTACA AGTGTGAACC CGTCTCTGTC CACAATACTC GATTGAACCT    240
20  CATCTGGGC AAGTTGTTC CGTTGCTCAA ATAACAACAT ATGCTCTGTA ATGTGCTGC    300
    GCAAGTACTC AAGGTGAGT GGCTTATAGA AGCTCTGGAA GGTCGTATC GAAGGAGACT    360
25  GGAAGCCCA CTCCACCAAT TCCTTTTGTG TTGGCGGTA TTGCGCAGA GCAGCCAGC    420
    AGTTCTCCAG AGATGCTGG TCACAAACT TCAACAGAGC ACTGTTTCTC GGTGTATACC    480
30  TTCTGTCTC CGCATCCCC GTGTCTCTGA AATGGACGT CAGCGCACC AAATCCACT    540
    CGTGCAATC GAACTGTGTG TGATGTAGCA GCTCTGCCAC ATGCGCCACA GTCTGTACT    600
35  GCGCGCAAAT CTGCGCAAAG CTCTCCTTGA TAGAGTCGAC CTGTGTCAAC AGAGGTAAAT    660
    TGACAATAAA CAGGCAATTA GCTCCGATT CCACCTTCGT CTGATGCTTC CTC    713
40

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(2) INFORMATION FOR SEQ ID NO:1025:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 736 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1627UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1025:

5 GATCTTTGAG ACGCGGCGCTG GAGAGTTTAG AGCAGATTGT TGACCAACGC ATAGCAGATG 60
 CTAGACCTGA GTCATACACC CTCGTCCTG TTGGAGACAC GGAATTGCTA AATTCAAAAA 120
 10 TAAAGGAGGA GGCAGATGAA GTGATTGAGG CTATAACGCC AGCTGAACTA CAATGGGAG 180
 TTGGGACTT GCTGTATTTC CTCATGGTGA AAATGAGGAG CAATAATGTG ACTTTAAAGG 240
 15 AGGTGGAAGC CAACCTAAAC ATGAAGCACA TGAAGATTAC GAGACGGCCT GGAAACGGCA 300
 AACCAAAGTA CCTACCGCG CAGGAGTGGC AGAAGAACA GGAACTCCT GTAGATATTG 360
 20 CACCATCTGC CATTACTTTC AACGTGTAT CTCAGATGA TGAGGCGCA TTGAAAACAG 420
 CAATTACAAG GCCAATCAG AAACTACTG ATATATTAGG TCTTGTGAG CCTATAATAA 480
 25 AAAAAGTGAT AGAGGAGGC GACAATGGT TGA CTGAACT AACAGGAGG TTGATGGAG 540
 TAAAGATAGA AACACCACTA CTAGAGGCTC CTTTGGCGA CGAGTATTTA AAAGGATTAA 600
 30 CGGAAGACGT CCGTACGCC ATAGATATTT CGATGAGAA TGTCCGTAAA TTTCATGCG 660
 CACAGCTGAG AGACGATATT CTCAAGGTG AAACGCAACC GGGGGTGGTA TGTAAGAGAT 720
 35 CCCGAGGCCA TAGAGA 736

(2) INFORMATION FOR SEQ ID NO:1026:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1628RP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1026:

5	GATCTGCCCC TTTAAGCAAC CACATATTAA GCGCTGACA CACAGACTGT CAGCGCTTAG	60
	AAATACTTCG GTGAGTGTTC AGAAGCCCCA GCGCTGGAG TTATTTCATGA TCAGTGATG	120
10	GGTATTGACC TTGGATCCA CAGACAGGCG GAAATATGCA TATATGTAAG CCAAGATGCC	180
	GGCAACCAAT TGGTCTAACT GTAATGCATA ACACTGTATT CCGOGAAGCG GCTCTGAGCA	240
15	TGTATGGTAT TGGGCGTAG ATTGTGAGCC CACGTATATT TCCAGTGAC GCCCTGATGC	300
	TATTTACAAC ATAATCACTA TTGACGAGCA AGGATAGTGG TCGCAAGTTA CGAAAAAGAA	360
20	ACGTTGAAAA ATTTGGATGG TGTGATGAG GTAGAGATAT TAACGTAAAT GGGGAGCAC	420
	GAATTTGGTC GAAGTTCTAT ACTGCCAAG ACGTTCGAG ATTGCTGAGT TGATGGGTTT	480
25	CAAAGTATT AAAAAGGCGG TAGTCCCTAA ATTATCGGAA AAAGCCAAGG AGGAAGAGTT	540
	GAGCACTTCG GGCTCCTCTG ATTCTACTTT AGAATCAAGT TCATCTTCTT CGTGGGAGGG	600
30	CAGCTCCAGC AGCAGCTCTA GTTCTCCGG ACAGTGAATC GAGCTGCTCG GACAGCGGCT	660
	CCAGCTCTTC TAGCAGCAGC TCGAGCTCTT CCGGGAATC GGGCTTC	707

(2) INFORMATION FOR SEQ ID NO:1027:

(i) SEQUENCE CHARACTERISTICS:

- | | |
|----|----------------------------|
| 40 | (A) LENGTH: 733 base pairs |
| | (B) TYPE: nucleic acid |
| | (C) STRANDEDNESS: single |
| 45 | (D) TOPOLOGY: linear |

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- | | |
|----|-------------------------|
| 50 | (A) ORGANISM: PAG1629RP |
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1027:

5	GATCTCCAC	ACTAGGCTGG	GTCTTACTGT	CCATGAATAG	CATTGGAAGA	ATGGAGGAAT	60
	CGGTCTTCAA	GTCAGCGGGG	AAATTTTCAG	GCCAATATAA	TGGTTCCCAA	GTATTTAGAA	120
10	CTTCTCGACT	GTCGTCAGTA	CTTGGCCCTT	TTAAATCGGC	TGTTCCCTTT	GAAGATATAC	180
	ACCATTCAAT	CCAGTGTATC	GTACCCGAAA	AATTAGCAGT	AATGGCACTT	GGAACATCAT	240
15	CCGAATCGT	GTAAGCACTT	GCAATAACTG	AAAGCTTTGT	AAGAGAGGTA	AAAATCGGTG	300
	CGCGGTTCC	AAAATTGTCC	AATTGTGAGA	TTTGTGTATC	TTCATTAGGC	CTACTGGCCA	360
20	GTCCACTAG	TGATCTAAG	GGGCTTATTT	CAGTGGTTAG	AAATTATCC	TTCTCAGTTT	420
	TGACTTACA	AGCAAACCTCA	GTGAACAAAG	GGGGGTATCG	ACGAGCAGCT	CTTGTGTAAG	480
25	CTGCTGAGGT	TTTCCCTTGT	GAAATAACAT	GTCTTTTAGT	TTCATGTAGG	GCTCCAATCC	540
	ATGCCGTAA	CTCTTTATAA	CTGGTTGCTT	GGAAAATTAA	AGTACCAGAG	TTATTAGAAT	600
30	ATTCTTCTTG	AGGTGAAGAA	GTTAATGGAG	AAGAGATAGT	CATTGGAAG	CAGTATTTAC	660
	GTGCTCTTC	TGGATGGTGC	ATGGCACTGA	GTAATAATAC	TCCAATCTG	TCGGTTTCTT	720
35	CGACTGCAGT	TTT					733

(2) INFORMATION FOR SEQ ID NO:1028:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 742 base pairs

(B) TYPE: nucleic acid

45 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1629UP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1028:

5	GATCTGGGCT CGGTGCTGCG GCTGAGGCC TACTGGGCAG AGCGCTACCC AATAACAAC	60
	GCCCTAATCG GCGGTGCAGA TAAATTGCAC AAGCTCTACT CAACCGATTT TGGGCCCATC	120
10	GTCGCCGCCA GGACTTTTGG CTGGAACCTC GTGACAAGC TTGGACCGCT GAAAGACCTC	180
	ATAATGGCAA AGGTCAGCGG CCCAAATTAA TAGTCACGTG TACATAAAGG TTTTCCTAAT	240
15	AGCTATACAG CTTCGCCCGG TCCTCAGCTT GCAGCGGCA ACGCGGTGC AGCCATGAGC	300
	GTCTACTGG AACTACCAT TGGGACCTT GTAGTAGACC TGGACTACAA GACATGCAGC	360
20	GCGGAGAGCT ACAACTTCCT CAACTCTGC AAACTCGCT TCTAGACTG TCAGTGCATC	420
	TAGGACCTCC ATCTGAAGG CTCAGCAAGC CTCGGGATC CACAGGTGGG CTTTGCATTG	480
25	CCACCGATT TGCTGTACA CAATACTCG ATCGAAGGC TCGGACAC ACGGGCGTC	540
	ACCCCGAAGC TCATTGAAGC CTCGTTGCG GCTCAACCG CAGAGCGCTT CGGACAGGTC	600
30	GCCTTTGTGC TCAAGCCCG CACTGGCTG CTGGATCCA ACATACTGCT CGGCTTAAT	660
	CCGAACTCG GCGGCATC AACACAGTGC GCTTGGGCA GGTATGAC GATGCTGG	720
35	CAGTTCTGCA GCAGCTCAGC GA	742

(2) INFORMATION FOR SEQ ID NO:1029:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 692 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1630RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1029:

5	GATCGACTTT CAAACATTAT TATACAGATG GAGGGCATCT CACATCTTGC ACAGCAAGAC	60
	GGCAATCCAA CAGGTTCTGT AATGCAGCCT AAGAGGCGAA GGGTTGAAGA TGGAGCGTCT	120
10	AGTGATGGAG AAGTACGAGG AGAGATAAAG CGCAAGTATG GTATTGGGCG GCAGTTGATG	180
	GCCAAGATGG GATATAAGGA GGGCAGCGGT CTAGGGAAAG AAGGTACGGG ACGCACGACG	240
15	CGATATTGG TATAGCAGCG GCGCAGGGC ATGGGGCTTG GAGCCAAAGT CTCATTTC	300
	TCTGACTCAG AGCAGAGTGA GGTGGAGCTT GTGACTCGCG AGGCAGTGAA GTTTGAATCG	360
20	AAAGGTGTGG AACTGACAC AAGCAGAATA GCAGACAAGA TAGCAAAGCT GGAGATCGCA	420
	GGAGTGCAAG TCCCGCAGA AGTGATGAGT TTGGTTCTG GGACAAAGAC GCTGGGTTAC	480
25	CAACGGGCTG CAGCGATGGA AAGGGTGCTC TCGGAAGTGC TGCAGGTGGG TGAGCAACTT	540
	GCGACCCCTAC AACTACCGGA AGATCAGCTG CAGCAAGGCG TAGATGCGGC CATTGAGAGT	600
30	AGTGACCTGT TGAACAAGTT CTCAACGCGC TGCAACAGCC GACTGCGCTG CCGGAGCGGG	660
	TAGCGGCATA TTGGCCTTGG AGGACCCAGA AA	692

(2) INFORMATION FOR SEQ ID NO:1030:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1630UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1030:

EP 0 866 129 A2

GATCGTCGCC TCATGGTGA GCTGCGCCCC ACGGGGGAAC CTGGCAGCCT GCGCGGCGAC 60

5 CCGCGCGCGG TGGCGACCC GGTCCAGTC GCGAGCCCC GTGGTCCCCG GACCATGGTT 120

ACCGTATCGT CCGGACAAA TGGCGAGGGG TAGATGATGC CCTCTCCGC CTCGCGCGTA 180

10 CCGCGCGCCT CCGCGGTGTG CGCTCTCTT GTCCGGCCTG GCGCGTCCC GTCCCCAGAC 240

AAACGGTGCC CGCGCGCAC CCAACGCGG AGGCTTTCCG CCGCGGGTGG CCGCGGCGGC 300

15 CGCTCCCGG CTCGCGCAAG GCGCTTCCCC TGACCCAGTC CTGTAGGTGG CTGTGGTCA 360

TGAAGGGCG TCCAAGCAAT TCGTGTACGA TGATCTATGC CAGCCGCAGC CTTGTCAACC 420

20 AGCGCGCGCA GCTGCGGCAG CTTGGGTTTG GTCTCGTCCA TATGTGGTTC TGGTCTCTG 480

TAGGCATCAT ACATCTCCCG CTATCTTTCT CTTGGGCTG CACCGGTACC GTGCATTGGA 540

25 AACGCTGCTC CTGCGCGAGG GCAGTCTTAT AACGTTGCCA GTGAAAATCG TGCAGTACCG 600

AACAGTAGCT CATCGCGCAC CAGCGAACA CATAGGCAAC AGCTTGGTGG TAGCGGGCTG 660

30 CCGGCGCGAC CACGATCTC ATGTACATA GACTCACATG ATCAGGCAGC AC 712

(2) INFORMATION FOR SEQ ID NO:1031:

35 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 729 base pairs

(B) TYPE: nucleic acid

40 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1631RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1031:

55 GATCTAATTT ATTACATTA ATTAATAATT AATAATATTT AATAATATTC AATAATTTAT 60

ATATTTTATT ATATTTAATA ATTATATAAA TACTTTAATT ACATAAATAC TTTAATTAGA 120
 5 GAGTTAGGGT TCACCCCCCT AATGCTTATC AGCATTATGA GGTACCACTC TAATTAAAGG 180
 TAAATATATA TATTTAATAA TAAAAGGATA TAGTTTAATT GGTAAACTA TTGACTTCAA 240
 10 ATCAATCATT AAGAGITCAA ATCTTTTAT CCTTGTATA TTTAATAAT ATAAATTAAT 300
 AAATAATAAA TATGATAAAT CATAATATTA AAGATATTGA TTAATATTTT TAATTAAATTA 360
 15 AATAATATGC AATTAGTATT AGCAGCTAAA TATATTGGTG CAGGTATTTC AACAATTGGT 420
 TTATTAGGAG CAGGTATTGG TATTGCTATT GTATTTGCAG CTTAATTCA AGGTGTATCA 480
 20 AGAAATCCAT CAATGAAAGA TACTTTATTC CAATTGCTA TTTEAGGTTT GCTATTAGTG 540
 AAGCTACAGG TTTATCTGT TTAATGATTT CTTCCTTATT ATTATATGGT GTTTAATTTT 600
 25 ATTAAATTAT ATAATAATTA ATATTCAAAA TAAGTTATAT TAGCTTAATT GGTAGAGCAT 660
 CCGTTTGTGA ATCGAAAAGG TTAGGAGTTC AAATCTCTTA TGTAACAATT TAATTAAATT 720
 30 AAATAAAGA 729

(2) INFORMATION FOR SEQ ID NO:1032:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1631UP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1032:

55 GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGT 60

ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCTTA AAGTATTAGG TGAAAAGAAT 120
 5 ACAAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180
 TAACCATGCA TTGGTAATCT ATCTAAATTA CCTGTAATAC CTAATGGATT TGATGAACCA 240
 10 TGTACATGTA ATAGCATTAA ATGCATAATT ACTATTGCTG CAATAATAAA TGGTACTAAA 300
 TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCCTCATAAT 360
 15 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA 420
 GCACCTCAAT GTGACATTTG TCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480
 20 GTTAAAATAA AGATAATAAC ACCAACTGTT CATACAATAA CTCTAGGTGA TTTATAAGAA 540
 CCATAATATA AACCTTTACC AATATGAATA TACATACAAA TAAAGAAGAA TGAAGCACCA 600
 25 TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTACAT CTCTCATAAT ATGTTCTACT 660
 GATGAGAAAG CTAATTCAAT ATTAGATGAA TAATGCATAG CTAAAAAAAT ACCAGT 716

30 (2) INFORMATION FOR SEQ ID NO:1033:

(i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 658 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

45 (A) ORGANISM: PAG1632RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1033:

GATCTTCGGC CGGTGCGGC CAAAACCCG CAGCTCCCAT ATACCCGTGT TCAGGTTGAA 60
 55 GCTGATGCTA GCGTCTGCC GCGACACCAC TTTCGCAGGC CCCAGGTGGA TGTTACTGA 120

CCGTCCTGCG GGAGACGTGT TCCGCCCGAT ACTCGTCATC ATGTCCCTCA CGTAGTACGT 180

5 CCAGTCTCGT CCCGATATCT TGGGTACGC CTGTACTTCC GTTGCCGTGT TCTGTCTGTT 240

CGAATATACT TCCGACACTG TCGTCGCTC CTTGGGCGCA TCCAGCACCG AAATCACCGC 300

10 ATTGATCAGC TCCTGTCTCC GTTAGTACTC GGTCTCGTGC CGCCCGTCTC GTCCTTACAT 360

ACCTGCTGGT GCTGCTGAGA CGCAATGGG TAATTCATCT CGTCGCTCA ATTGCGCTCC 420

15 TCCACTGGCT GCCCCAGGGT AACGTCCGAC TTCGGTTGCT GTGGAAGGGG TGGTCGCTCA 480

CGGTAGCTCG GTACAGCTGA TCTGGTCTT AGTATCAACA AAGCAAAAAT AAAAATAATA 540

20 ACAATAAGCT TTTCAGTGTG TGTGAACGTC CCAGAACTG ATTCCAACGC TCCAACACCG 600

CACTTCTTGA AGCAACCTCA CGCAACCTTC TGAATGACAG ATCAACCTCA CTAAACCG 658

(2) INFORMATION FOR SEQ ID NO:1034:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 690 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1632UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1034:

GATCGAGACT GTGATATAGC TGTATAAGAA GGTTTGAAA CCTTAGTAAA TACCCAACTT 60

50 TTTTAATTCT AACCTTGTC AGGTTTATA CTCAATTGTA GCTTTGAGTT GCAAAATACCC 120

GAGGCATAAA ATCAAAGCGT ACTTAAAAAC AATCACTACA TACAGTCCTC CACACCTGCG 180

55 CAGAGTGGAA TAACATGAAG AATAAATATT AAGGACAGTA ATGCTATAAA TACATGTGCT 240

TCAAATAAAT ATATGCTTGC TAAGGGTTTT CAAATTCGGT TTGGGGCAAA GAGTACGCAA 300

5 TAAGTGGATC TTGGGAAAGT GATGGGGGCA GATAACGACC AAACAAGTGA GTTTCACGT 360

TACCTATATC TTCTCTGGG ACAAACCTGC CACTGTTGAC CATGTGTGTG CTAGGIGTTT 420

10 GATGTATGGA TGGAGTATCA GCACGTCCGG TAGAGGAAGT GGGAATTAGT GAAACTAACG 480

TCCCGGAGAA ACTGGATGCC ACACGATTGT TTGGTAGTGT GGGGGGGGTG TTAGGATTTT 540

15 TAATGTTGGT TACTGGGGTG CCTGATGGCA ACGATGGGOC AGAAAAGTAT ACTTCTCTCT 600

GTGCTTTCAA AGATGGGTCA ACAGCCCAAT TGTGAAAGAA ACTGGCATTG CTAGTCTCAG 660

20 GGATGCTAAT AAGCTCTTGG ACAGAGTTGT 690

(2) INFORMATION FOR SEQ ID NO:1035:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1633RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1035:

45 GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60

CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

50 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCATTTCAT TTAATACTCC TCTAATTCAA 180

TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240

55 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300

ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360
 5 GGIGTGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420
 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAA TAAATAATAT 480
 10 GTTATATTTA AATAGATCAA AATTTCACAA ATTTCCATT CATTAGTAG TACCATCACC 540
 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACCTTAG CTTTACTAT 600
 15 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660
 AATAACTTTA TGATTTAGAG ATATGGTAGC TGAACCTACT TATTAGGTG ATCATACTTT 720
 20 AGCTGTAAGA AAAGGTATAA CTTAAGGTT 749

(2) INFORMATION FOR SEQ ID NO:1036:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1633UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1036:

45 GATCTTAATT TAAAATTTTA ATTAACTATT TATAATTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAT TAGTAAATA 120
 50 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTG TGGCATCTTA 180
 ATTTTTATTA TTAAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 55 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTAAATTTAA TTTTAAATAT 300

AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GIGATATATA 360
 5 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTTCATAATA TTTATTTTAA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480
 10 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAATT 600
 15 ATTATTAATT AGTAAATTAT ATTTATTTAT TTTATTAACA TAATTTTTTG ATAATAATAT 660
 ATCATTATTA AATGGTTAAT TTATTAATAA TTATCTTTAA TGATTTTAAT GATAAACCAT 720
 20 TATTATTATA GA 732

(2) INFORMATION FOR SEQ ID NO:1037:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1634RP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1037:

45 GATCCATCTG CGTTTGTGC GACGTCCTGT GAAACTCTAC CAGGCGAATA GAACTCTGAT 60
 AGACGACTGG CAGGTGTCTG TTGAGTGGCA ATAACGGGAT TTGCATCATC TATATGGGCA 120
 50 TTCTGGTAG TATCTATCTT TAGACTCGAT AGGGACCCAT GCTTTACAAG TTCAGGTTTC 180
 GCTTGCGGAG CCACGACATC CTTTCTCGA TTTAGGAATG ACAAATTTGA GGAGTTCCTC 240
 55 CTATGCTTGT GTTCAAATC ACCAGCAATG CTGGCTGTT TATTGGTACT CCGAGATACA 300

TTCTTGAAT GTCCATAGAT ACTCGAAGAC GGCTTCCAG TGGGAGCTGG AACGGCCAGA 360
 5 CTGCTTGTG CACCTAGCCC TTCTAATCG TTTGGAGAGG AAAGCATGGA AATTGATTG 420
 AACAACTCCA CAAACGAGCC ACCCGATTTT GTCTTCTTAT GTCTGCTCT TATACTCTCT 480
 10 TCCGGAATGG CCTTTTCAAA AGTACGCTGC ATCGGAGATA TGCCAGGATT ACTGTAAGGA 540
 TTTC AAGGT CTGGGCCATC AGGCTGTTG TCACAGCAG GCTGCATAAA TACTGTGGA 600
 15 TAGATTGCTT TCTCGAGGAA GTGTAAGAAG CTGGTGAGTT TAGGGTTTGT GGGCCGTGTT 660
 CGTAAATGGT AATGTGCTGA TTCTGCTT GATTCTGCAA AA 702

(2) INFORMATION FOR SEQ ID NO:1038:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1634UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1038:

GATCACAGCG TGGCCAAGCC CAGCATTGTG TCTAAGTTAC ATGTAGAGGT CGAACAGCAC 60
 45 GAGGGAATGC TTTTGGCTAC GGGGAATTC GAGACCTTCA GACTGACACC GCAGATTTTC 120
 TGTGGGCTC ACCGACCTT AAATAGCTAC AGCAACACAG CTGGGCGGT GTACACTGAT 180
 50 AGCAAAGATG AACCGGTCTA TCATTGCTC GGTGACTGCG ATGGGCTGG AGGAGGCCAG 240
 CAGTCTTGG CATGAGGGT CGAGTACTC GGGGAGTCA GAGGAAAGC TGTCAACTC 300
 55 GTATGGGCC TACAGCACCA CCGAATCGT GATGACATCT GTGATGATGA ACAAGGCCCA 360

GCGCAAGGGC GAAGTGTCCG AGCAGTGGAT GGGGCTCTTC CTGGACAGCA CGCTGTGCA 420
 5 GGAGGTGGGG GTGCTGCAGC GCGGGATGTC GGTGACGGGG CGCTGCCTGG ACAAGTTGCA 480
 GCGCATCTTG CAAAGCATGC ACGGATACCG CCAGATCGTC CCGGGCCTGG CGATGTTCAA 540
 10 AGAGGCATGG AACCTGCAGT GCTACCACGG CAACGAGGGG GACTTTCCGC TGCTGACGT 600
 GCGGATCAAG GTCAACAGCC TGACCACACT GGCAGGCTG CTGGTCGAGC ACCGGGTGTC 660
 15 CGTTACAGC ACGCGGATCG AGCAACTCAC CACGGTGCTT CAGTACCTCA ACAAGCTGCT 720
 GCAGGGGTGG CGGTC 736

(2) INFORMATION FOR SEQ ID NO:1039:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 737 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: 1635RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1039:

GATCTAGGG TGGTTCATGG CACTGAGGG GACCGTGTTC TTGGACGGT CGAACGGCAG 60
 45 CAAGAGTCTG AAGTCGCTGA ACGGTGCTG GGAGCGGCTG AAGCGCAATC GGCAGGGGGC 120
 GTGGATTTTC CCAGAGGGCA CGCGTGCTA CACAACGGAG ATGCAGCTGC TGCCATTCAA 180
 50 GAAGGGGGGG TTCCACCTGG CGCAACAGGC GCAGATTCGG GTGATTCGG TTGIGATGTG 240
 CAACACGAGC ACGGTGTTCA ACCCGCGGCT GGGCATCTTT AACCGCGGCA CGATCACGGC 300
 55 GAAAGTGCTG GAGCGGATCG ACACGGCTAA CATGACCAAG GATGACGTGG ACAAGCTTGT 360

GAGCGACGTG CAGGCCAAAA TGCAGGCGGA GTTCGAGGCG CTTGGCTACG CCGCTGCCAT 420
 5 CGTGACACG AGCCTACCG AGGAGGCGCT GCGGCGGAG TTTGTGGACT GCAAGGAAGA 480
 CATCAGGAG GTAACGGCC TCTTGAAGTA ACCTTGGTTG GTATCATATA AACGTTGGA 540
 10 CGAGTTATGT ACATATAGCG CTGCTAAGTA GGCATTCACT CCCACGAACT CATACTGG 600
 TGAGCTCTAC GCCCGCCGA TGTGGGCCAG ATACTTGTG ACCTGGCCAG CGGACCGAG 660
 15 CCAGATGAG GACTTGTGT GGTGTGCTC GGGAGTAAGG TCCAGAAATG CCGTGGCCG 720
 GGTGTTTAC GGCCTTG 737

(2) INFORMATION FOR SEQ ID NO:1040:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 686 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1635UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1040:

GATCGGACTG ACGGTGAATA GGCCACGTA GCATGCGCG CTGAGCGGC TGGGAGGGA 60
 45 TAGCAGCGT CCGTCGAGG CTCTGGTGG CAGGACAAG ATCCACTGG CCACCAAGC 120
 CAGTAGGAG ACTGCCACT GGACTGACAT CGTGACACA CCGTTGTGA TGCAGAGTC 180
 50 AATTATCAAG CCGACAGGA AGCGGAGCA CGTGAGGCA ATCGCAATT CTGGCAGC 240
 CGACGCTGG CCAACAGGC TCGACAGGA GCCATGTTG GTGAGGAACA TCTCATGG 300
 55 GCCCAGGAC AATAGCAACA CAAGGGCCAT GAAGTACGC GCTGGTGTG GGAAGAAGTT 360

GCGCAGCCCG CCGCGGATGT CCTGCGGCAG CAGCGGCTCG GTGGGGCTCT GCATGCCCGC 420
 5 GAAGGTCAGT GTTGGGGCCT TGACCTTGAG CATAGTGACG ATGCTGTGTC CAAACACAT 480
 GCAGAAGCTG ATCAGCGTAT ATGCGACAGC AAGAGTCTTG AATACACGAG AAAGGTCAAG 540
 10 GTACGGCAGG CCATTTTGAA ACCATGGTAT CTTCAGCAGC TCGACCCCTA GCACAGAGCC 600
 CATCCCGTAA AACGTGGCCG GCAGACTTAT CGAGCACAAC TTGCTGGCCG GGTACAGTTT 660
 15 TGATGCGGTG AACAGCGCAC TGAAGT 686

(2) INFORMATION FOR SEQ ID NO:1041:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1636RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1041:

40 GATCTTCTTC TGCTCGATGG ACGAGCCAGT TGTATCTTGG ACTCTACGGA TAACCCACAC 60
 CTTTTCCTTC AGCGACAGGA ACTTGGCATC GGTGGGGTTA TTGGGGTATA GATATAGGC 120
 45 TAGGANGCT ACCACAAAG TTAGGCTGCC GATTATAATT GACAGAAITTT TOCAATGTGA 180
 GATAGCTGGG TTCTTTATCA GCAGGATCAA GTAGGAAAGG ACGCCCATTG GTATGGATAC 240
 50 ACTGACCGTC GCGATAACAA AAATCGGGGC GGTGCTGCC TTTTCATTCT CTGTTAAGAA 300
 CATCAGCATT GTGTGTTC AATGAGGAAT GATAATAGCC TCGTGAAAC CTAAGCAGAG 360
 55 ACGAAGAACA TATACACCTT TGTAATCOGT CATTGCACAT TGTACCATCA TAATGATGCA 420

CCATATCGTC AGGAGGACGA TAACAACGTT CTTCAAAGGA AACTTCTGGA TAAACAGCAA 480
 5 GTTGATCTGT CCGTAATAT AGCCAACGTA GAATAAGGTA TTCACATTGT TGTAACGATT 540
 CAAGGACATG TTTACATCTT CAAAAAATCC TAACAGAGTG CTGTAGGACA ATTGCGCCTT 600
 10 GTCTATGTAG GTGATGAAAT TAATGCTCGC CGTCAGTCCC ACGATGTACC ACATAACCTT 660
 TCGTGCAAGC TTCTTTTCTT CGCTTCTGT GATAGGAGGG ACATCCTTGT CTTGCTTCAA 720

(2) INFORMATION FOR SEQ ID NO:1042:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 677 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1636UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1042:

GATCCGCAAG ATGACCGAGG GTAAGGGCCA CCTGCTTTTG CACCACCGCT TAGTTTCTTT 60
 40 TGGAGGTGCA GGTGGTCAAC ATGCAGTTGC AGTGGCACAC TCATTGGGCA TAGAAACCGT 120
 CCTCATGCAC AGGTACTCAG CAATTTTATC TGGTATGGA ATGCTTTTGG CGGATGCGGT 180
 45 AAAAGAGGAG CAAGTGCCAT GCTCCATTTT CTTGCAAGAT ACATCTTCTA AAGACCAGCT 240
 AAATGAAATA TTCCACCAAT TGATTACCAG TACCTCAATT AGCCTTCTTA AGCAGGGATT 300
 50 GCGCGACGAT CGGCTTGAAT TCGAGAGATA CCTGAACTTA CGTTATGAGG GTA CTGAAAC 360
 AAGTCTTATG GTTCTACAAG AAGGAGACTC GTGGGATTTT GTAGAAAGGT TCACAAAAC 420
 55

CCACAAGCGT GAGTTTGGCT TTGTTTTCGC CGAGAAGAGG ATTTTAGTGG ATGATGTCCG 480
 5 TGTGGGTGCT CTAAGTAAGT CTATGGTGGG GAACAGGAGC CTGTTGATCA GCAGTTATCC 540
 CAGGTCACCT GTTCTACAGC TGACCCCTTCT AAGGATGCAA AGTTCCTTAA GGACGTGTAT 600
 10 TTCGTGGATG GGTTTATTAA GACCACCTAT TTACAGGTAA GATAGTTTAC CGGTAGGTAC 660
 CTGTATTGAA GGACCTG 677

(2) INFORMATION FOR SEQ ID NO:1043:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1637RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1043:

GATCTGCTCA TACTGAGCGG CCAACTGGTC GTACTCCGTA TGCAAAACAT CTGTGGTTTC 60
 40 CTGGAAGTGC GCCACCTTGA GCGATATCTC ATTAAACTTG GTAAOCAGCT CTOCCAAGT 120
 ATGATTGACT GCACTGGTTT CGTCAGCAG GTCCCTCAGT TGGCCAGTTC TGGTGTCCAC 180
 45 TTCCGGCAGG TATCCGCTGT ACAATGTATA CTCGTGGTTC GCAGACCCCA GAGCAGAAGC 240
 TGGCCGCAC TCTGGCGCCA GCAGCTCAAT TACCTGAGT TCAATCTCTG TTTCAACCGT 300
 50 TGCCAACAGA GTGTCTACTT TTTGGGTAA CGAACTATCC CCAAAAAGCG GAGGCAGCTC 360
 ATCGTGAGAG GAGGCACCGG GATTTGCGC TACATCCTGT ATGACTGAGT TCTTCGGGCT 420
 55 CCTAGGCATG GTGCAGTTGC TGCCCAAGG GCTTCTTCC TGGTGCAGGT CTGCAGTGGT 480

TCGTGCTTAT GCGCAAGCAG AATACCATGT TGAGCCGGCG AAATCTCATC ACGTGATCAT 540
 5 CATCTTGCAA CGGCTCGGAG GACGCTGATG CACTGTTCOA TAGGCTTAGG GCGCAATTAT 600
 ACGCTAGCTA GTTATATTGA TAATATGTAC ATGATGCCIT CCGCAGACA GCGCACTCAG 660
 10 TGCTCGGGCG CCGCGCCGCG CTCGGGCAAG CTCTTGTC TC AACTTGGGOC TTCTCGGCOCT 720
 CCACGT 726

(2) INFORMATION FOR SEQ ID NO:1044:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1637UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1044:

GATCTTGCCG TCCTTCTGT CCAGCTGTAG GTCCGATGA GGGTAGCOCT CGCTCAGGTA 60
 CTCACGCCGC AGCTCGCCGC TCTCCATGGA CGCTCCAGG ATCGAAGGGC CCGGCACAGC 120
 40 CTCGAGGGG AGGGCGGGCT GCAGGAGGGG CATCTCTGT CGCTCTGGT GCATCTGCAG 180
 CGCCGCAGCG CTGGGCTCA GCGCCGGGTC GAAGTACTTC ACATTGGTCA GGCCCGACTT 240
 45 GTACAGATTG AGGATGCAGC CCTTGAGCTG CGCACGGTGC AACCGGTACG CAGTCGGGAC 300
 ATACTGGTAC CGCTCGTCC CCCCCTCCGT GAAGTGGGC CGCTCCGATC CGATCGAAGA 360
 50 CAGTGACGCT GTTGGCTGGT GGCTGTATCG CCCCCTCGGC GCGGGGCTG CGCCCTGGGC 420
 CTGTTCACC CACCCGAGCC GAAACACAGT CCGTGTGAC GTCTCCCGT TCAGCCCGCC 480

TCCAGTGGC ACCGGGAGC CCGCCGCTG CGAGCAGGC GACACTGCT CCTGCGAGC 540
 5 CGCAACCGCC TTCATGTCT CACATGTCAG CGTCGGCTTG TGCGCTTGCC CCGTCGGCAC 600
 CTGTAACTGC ATCGGGTCT GTGGCTGCTG CTGCTGCTGC TCGGTGTGCT GTTGCGGTTT 660
 10 GCCTGTTGGC CTTGTTGTGT GTA 683

(2) INFORMATION FOR SEQ ID NO:1045:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 665 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1638RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1045:

GATCCTGTG CTGGAATGT CCGGACGAG AACAGACAAC CGTCGGGGC GGGCGATCT 60
 35 GCGGAAGCT GTCCGAAGGA GAACAAGAAG GAAATGTAA AGCTGCAGC AGCGCCGATT 120
 CCACAGAACT CTCGTGGAA ACGGTGCAG ATGGGGACG GGGCCGACG GGCCACCGAG 180
 40 GACGGCGCT GGCCTTCTC GCACGAGGT GGCACAAAG TTGCTGAGA CGGCAGCGG 240
 CGGGGGGCT CGCAACCGAT GGTGACGACC GGAAGGAGA AGTGGGTGCC AATGAAGCG 300
 45 GCCATGCTTG TGCCCGGCA GGGCTTGCG AAGATGCAAC GCAAGAAGA AAACGGGCAG 360
 GGGTCAACG GGGTGCCGC GAAGCGCAAG ACCGGAACA AGGCACCCC CAGCCAGCAA 420
 AAGAGAGCTC CAGACTCCA CAGGAAGCG CATGACGAG CGAGCGCCG GAGGCCACG 480
 55 CCATCTGCAC CGAGGAGCA CGTGAACAG CCGAGCTG GCGAGAGCA GCAGTCCCC 540

GAGGCTCGCAG AACAGGGTGC GGAACACCCG ACACAGCATA TGGCGCAGAT GCAGCCCCAG 600

5 CCCAGAAGAC GCTTCTACGG CGGCAGGCAG CAGCACTCCG CTGACGGACA CAAGCCAGTT 660

TGTGT 665

10 (2) INFORMATION FOR SEQ ID NO:1046:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 765 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1638UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1046:

GATCTGAGAA CTA CTGTGTG TCGCTAGCG CAACTTATC AGAATTCCAT CAACTCACCG 60

35 AACCATAGCA CATCTAGTC ACCTCCCCCT ACCGCTACAG ATAACGGGAA TGATCAATTT 120

TTGGTGITC ATGCTGTAC CATATGCGAT GATGACAAGT ACCTAATATG CATGAGCAAT 180

40 GACAGTACA TTGATGTCTA CGACATGTCA GAATTATCGC CTGATTGTGA ACGCTGCGAC 240

GAAATTAGGA CTCTAGACT ATCTAGACTT AATATTGGGA AGCAGATGAT GTCCATGAGC 300

45 GGGCCAGTTG GACCCGATGA TTGCTTTTTA CTAATCAGTG TACAGCCACA CGAGCTTCAG 360

CTATGGGATT TCAAAAGGCA GATTATGGTC CAAAGATATG TAGGACAGCG GCAGGTGGCA 420

50 TACATCATCC GTTCGTGCTT TGGGTATGGG GACAACCTAG TTGCTGGAGG TTGGGAAGAC 480

GGGAAGATAT ACATTTGGGA TAGATATTAT GGTAATATTA TTGGCGTTCT ATCTGGGCAT 540

55 AACATGGAGA GACCGACGA CTCCAGAAAT AAAAAGTTCC CAATGACCAA AGTTTGCAAT 600

ACTGTAGCAT GGAATCCCGT CAATTCAAGA CTATTTGCCT CTGGAGGAGA TGAOOGTCTG 660

5 GTGAAGATAT GGAAGGTTGA CCTAATTGA TGAATCCTAT AGCATGAOGT TATTGTCTA 720

TAGAACTTCG AGAAATCCTG CCGATCTGTT GTTCCTAAA TTGTA 765

10 (2) INFORMATION FOR SEQ ID NO:1047:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 658 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1639RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1047:

GATCCATCTG ACTATTGTTT CACGCGATTC GGGGACCAAC TGTCAGTCA GGGCCAGGAA 60

35 CCGGGAGAAA TAAGCCTTGA ACGAGCGCTG GTGATATTA CAGTTGTGC CACCTTGACA 120

TCCTGCTCG TACAGGGTGT CGTTGCTGAG GAAGATTCTG GCGCTGTCA AGAAACGCAG 180

40 TGTTGCTGG TGCCACAGCT CGTCTGGGT ATGGTTGTAG ATGAAGGCAC AGCCTGCCAT 240

GATCAGCCCA TGGTGTAAAG TCCACTGCAG CTATTTTAAG TTGGTACAGT TGTCGTTGAT 300

45 GTCTGTACCG TCGTAGACGA CGTGCCAGTT TGGCTGCACA ATGAGATCA GCGCAACGCC 360

ATACATCCAG TCGTAAACCC GTTCGCGCA CTCTAAGTAT GTGGCATTC CCGTGTAACG 420

50 CGTTAATCGT GCGGCATGT GGAACAGGC ACCGTTGGAA ACGGAGTTT TGTAGTGGTA 480

CCCGTGTTC CAGCGGAAAA TCTGCCATCT GAGCCCGCG TTGCAGTCT CCATATCCA 540

55 GCGCAGGCC ATGTATTAA ACACCGCTG CGCAGGCC AGCCATTGCG GCTGGTCCG 600

GGGCGGGTTC GGGAGTTGC GCTCCGGGC AGCCATCACC GCCATCCCC AGAAAAAA 658

(2) INFORMATION FOR SEQ ID NO:1048:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 730 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1639UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1048:

GATCGAGGG GTGAGGGACA CGGTGCACAT AACGACTGG GACGGTGCT GCTATGTTTC	60
CAAGTGCGG ATTGTGACCG TCCCGCAAAG CGTGCTGGAG CTGTCTCTGA AACGAGAGG	120
GGTGCCCGGG CGCATTGAGT TTGCCCCCCC CCTCAACGAC AACATCACGT CTGCGTTTGA	180
GCGAGCTCAC TACGCTGCG TGGGCAAGAT CTCTTTTGAG TTTGACAAGT GCACCTGGGA	240
CACGCAGGC CCGCGGGTTG CTATGCGAGC CAAAGTTCC GACGACTTTA GTGCGCAGGT	300
CCGTAAGGCC CAAGATTTGC AGGAGCTGCT GCGATCGGC AGTGCTCAGA CTGAGGTGAA	360
GCTGGGACAA GACTGCTTTG ACTTTCCACA AGAGTTTCAG AACATGGTTG CGCTGGCAGG	420
GATACCGACA CTTATTGGT TCACGCAGAC ACCTCTTACT GAGCAAGTCG AGCGCTTATC	480
AAAGCAAGAG ATTGTGGACT ACTTCAAACC CGCAATTGTT GTTGCACTAC GTGCACTGG	540
GTCCAAGGAG GAGTGCTCT TCGACCTCG AAACACGCAA CCGCAAGAG ATAGTCATCC	600
AGGCCCAATC CTAAAGAAG TGATCTTCAA TCCGTGGTCA CAGGATAGT ATTCTCGTG	660
CTCATACACC GGTAGTCAG TGGACGACGA CCAGCTGCC TTGAACGTTG CCTCAACAA	720

CGGCCAAGAT

730

(2) INFORMATION FOR SEQ ID NO:1049:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 702 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1640RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1049:

GATCAAGCCG AGCAGCTGA CCTGGCTOC CCGACGCAAC ATGGGGTTGA CCGGCTCCCC 60
CGCGTGGGC TOCTCGAGC CATCGCCAG CTGGCACTG GCGGGTGC GCGCCGCGC 120
GAGGCGGCC ATGTGCATGA AGACGGGAT GTACGAGCC TCGTGATGG TGTATATAGT 180
GTTACAGCAG AGCATCAAGC AGTACAGCAC CGACATCAA ATGAGCGGC CGTAGGTCTT 240
GCTACCTGG CTGACAAAG GCGTGGCAAG TGCGCGTAC ATTACAATCG ACAGGTCAT 300
GAGCCACTTG CGGTAGTTTG AAAAGTCCG CAAACCATG AGCACAATG CAATGAGGC 360
CTGATGGAC GTGTACAAG CCGCATATA AAGCATAT GCGTGAACT GCAGTCCCT 420
TCGCCCAG TAGATGTAG AGTCATGCC GCGGGGGGG CAGTGGGGG CCGGGTGCC 480
CTTGGGGTGC CCGAGCTGT GTGGATGGT CTGTAACGAC GCAGGCACAA AAGAAAGCAT 540
CATCAGTAG GTCGCCCGG TCGAAAAGCA CACAAGGAG CATGCAGGA ATAACCACG 600
GCCCCGCCAC CGCGCCAGCA CTCCTCGTG GCGCGTGC CCGCCACTAG CCGCTGCTGC 660
TGTTCCAGG TCACTGACAC CTGCATGTCA GCGCCCTTGC TT 702

(2) INFORMATION FOR SEQ ID NO:1050:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1640UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1050:

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GATCAACGAG CTGGGCGAGC TGCAGCTGGA CGATCGCGAG GAAGGCTGG AAGAGGCCGG      60
TGGTGGCGAG GAGGGGCGGG CGCTGTGGGC GCAATTGGAC GGTGACGAG ACCTGAAGGA      120
GTACGACTTG GAGCACTAGC ACGAGGAGGA TGGGGGCGGG GGTGCAGAGG TGACGATGTT      180
CCCGGGGCTC TGGGGCGAGG CGCGCTTCCA CGAGGGTGAG GAGGGGCAGG ACGGTAACCT      240
GAGCTTGCCA ACGGTAGAGG AGGAGCAGGA GGAGGGGGGG GAGCTGCAGG TGTACCGAC      300
AGACAACTTG GTGCTGCCAA CGCGGACCGA AGACGACATT TGTACCTGG ACGTGTACGT      360
GTACGACGAC GGGCGGGGGT TCCACGACGA GCGGGTGGCG CAGGAGGCGG GGGACGCGCA      420
GGACCCCGAC GTGGGGCGGG GGCTGATACG GGAAGCGTGG TTGTACGTGC ACCACGACCT      480
GATGTTGCCG GCATTCCCGC TGTGGGTGGA GTGGGTGAAC TACCGGCCCG GGTGGAAGTC      540
TGACGCGCGG GCAAACCTTG CGGGGGTGGG CACCTTCGAC CCCACGATGG AGCTGTGGAA      600
CCTGGAAGTG GTGGACCGGG CGTCCCGGAC ATGATCTCTG GCGAGCCCGC GGAATCTGGG      660
ACCGGCTCCA AGAAGTCGAA GAAGAAGAAG AAGGGC      696

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(2) INFORMATION FOR SEQ ID NO:1051:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1641RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1051:

```

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGOCATT GAGCTCTTAC GAACTGCACA      60
AACTACTCG AACTCTGTTT CCAGACTTCT TTCGTGTTGT CTTCAACTGC TTTCGCATGA      120
AGTACCCCC AGGCTATTTT TCTTACCGC CTGGTGTTTG TCTATATAAC CGGTGTGATT      180
TTTGATAAAA AACTCAGCTC TTCTCTAGG GCAGAAATAT ATATOCAGTC CTTAGCGCCA      240
TGCGAAAATC TGCTTTTTA CCGCTGTTTC TOCCAGTCTT AGCACTGGCA GAAAAAAGAT      300
GTATGGCGTA TAGGCGCTGG CCGCGGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA      360
AAAAGACGTG GCGCGCCCCG CCGGCAGAGC AAGAAAAAAT AGCGGCCAC CCTTCCAAGC      420
AGACGACAGG CGAGACATAA TAAATCCCA CACCAAGGA AGAAAGTCTT GTGCACGCTC      480
CCGGCTCAT AGCTGCCAT TCTGTTCCAT CCGCTTGCA AACCAGTAG TGGCATGTCA      540
AAGCATGCT CCGACGCTCC GCTGCCITGC AGTGCATC CTCTTCTAA CCCAGCCAG      600
ACTTCCATA CTTTGCACTT CACATAGCAT ATCACTTTTC AGATCACTAC GTGACATTGG      660
GTACGGAATG GCACTCCAAT GCGACAACC TCTTCTACC CGTGACTTAC CCGATGTGCC      720
AACTA                                          725

```

(2) INFORMATION FOR SEQ ID NO:1052:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 704 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1641UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1052:

20	GATCGGGTAG TGAGGGCCCTT GGTGAGACGC GGCAAGTGTG CTGTGGTCT GTCTCGGG	60
	GCTTGCTCT GGGGACGGAC TGCTTGGGTG CTCTGTGTA GAGGGCTTG GTAGACCATC	120
25	TCTGGTGTG CTTTGCTACA ATTAACGATC AACTTAGAAC TGGTACGGAC AAGGGGAATC	180
	TGACTGTCTA ATTAAACAT AGCATTGCGA TGGTCAGAAA GTGATGTTGA CGCAATGTGA	240
30	TTTCTGCCCA GTGCTCTGAA TGTCAAAGTG AAGAAATTCA ACCAAGCGCG GTTAAACGGC	300
	GGGAGTAACT ATGACTCTCT TAAGGTAGCC AAATGCTCG TCATCTAATT AGTGACGGC	360
35	ATGAATGGAT TAAAGAGATT CCACTGTCC CTATCTACTA TCTAGCGAAA CCACAGCCAA	420
	GGGAACGGCG TTGGCAGAAT CAGCGGGGAA AGAAGACCT GTTGAGCTTG ACTCTAGTTT	480
40	GACATTGTGA AGAGACATAG AGGTGTAGA ATAAGTGGG GCTTCGGCGC CAGTGAAATA	540
	CCACTACCTT TATAGTTTCT TTAATTATTC AATTAGCGG AGCTGGAATT CATTTTCCAC	600
45	CTTCTAACAT TTAAAGTCT ATACGGGCTG ATCGGGTGT AAGACATTGT CAGGTGGGGA	660
	GTTTGGCTGG GCGGCACAT CTGTTAAACG ATAAGCAGA TGTC	704

(2) INFORMATION FOR SEQ ID NO:1053:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 678 base pairs

- (B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1642RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1053:

GATGGGGTT TGGGAACGGC TTGCTTGGCA CAAAACACAG GGTTOGAAGT TACATACTCT	60
TCAAGAAATT GACGAGGCGT TGAAAGCGCT GGAGCTACGC GGGTCAGGGA NTGATGGTAA	120
TGCTCATAT AAGTGCAACT GCCAGGCCAC TATGCATCT CTTTTTGAGC TAGCCCCAAA	180
TTGCTGAAC TGTGGCAAAA TTATATGTTG CCGAGAAGGT CTCATATGG ATTCTGCAG	240
TTATGTGGG ACGCTGCTGA TACCGAAGCA GCAGCAGCG GATATAGAGA AGGTGTTGCA	300
GCGGAACGC GAATTGGTAA AAGCCAAGAG ACAAGAGACC GGCTOGACTG GCAAGAAGAA	360
GGAAAAGGTC TTTAAGATTT CGAACGCAAA GGGGAGAAAT ATGTTGAGTG AGCAAGAGAG	420
GCTATTGAC AACTTGACA GGCAGCGGGA CGTGAAATGA AACGCAACCA GGTACTTGGG	480
GCAGAGGACT GTCTCAGGAG GAGGACTGTA TTCTGAAGGC TGAGGAAGTC GATCCGGAAC	540
TAAGGGCGGC CAGGCGCGCT TGGAGAATCT ATTGCACITT CAAGACACTA GCGAAGAGAG	600
GACTAAAATA ATAGATACTG CCAGTGACTA CAGTATGTCA AACGACGAG GAATTGGGG	660
GTCGGCATAT GAGAAGGC	678

(2) INFORMATION FOR SEQ ID NO:1054:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1642UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1054:

```

15  GATCTGTGAC CCGGTACGGT GCGGAGCTT GCGGCGGCA GCGGCGGCT GCGCTGCTTC      60
    TCCGCGGACA GCGGCGCAA TACGTTGTTT TACAAGCTGC ATGGATGCT GGCACAGGC      120
20  GTGCGTGTG CGACGCTGG GCATTCTCC TCAGACGCTG CGCAACCGG GGGGAAGCAC      180
    CTGGTCTGT TTTGTACGA CGTCGCTCG CGTGGCTTG ACGTGGCGG TGTACGACT      240
25  GTCATGAGA TGGACCGGC CTTCGGGTC GAGGACCATC TCATGTAT CCGGCGGAC      300
    GCGGTGGCG GTGTGGCTG CGAGTGTG CTCTTCTGC TGGCGGGA GGAAGAGGC      360
30  TACATGGAAC ACATCGTGC CCACACCTT CGTGGCTGG AGCTGCTTG CTACGATGA      420
    GACCTACTG CGCGGCTT CGCGGCTT GTGCGGCT CGACGCTC GACCAACGA      480
35  ACGGACCGG CCTGGGACG CAACGGACA ACTTGGCAC TCAAGTCA GCGCGTGT      540
    GCTGAAGAC CCTCGCGAA GGATCTTGC ATCAAGGCT ACACAGCA TATCGGCA      600
40  TACGCAACC ACATCTCTA GGAAGAGG CTCTTCAAC GTTGTGTC TGCATCTTG      660
    CCACCTGGG AAAGCTTTG GACTTCGCA GCGCCCAA GCA      703
45

```

(2) INFORMATION FOR SEQ ID NO:1055:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 616 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1643RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1055:

GATCGGAACA AGGAGCAGCA GTCCATCAG CTGTGCAGC AGCAGCAGG CACACTGCAG	60
GACAGGAAGC CGACATACCA AGTCATGTCT CTCAGAGCG ACACGACGGT GACCAAGTTC	120
AAGGTGACG ACTCCATCAG CAAGCGTTTC GAGTTCATGA ACAAGCGAA GGCCAAGGC	180
GCGACGCGC CGCGGCAGGC GGCGACCAGC AGCCCTGCAA TGGCCTGGG CGCCGCCAAG	240
CGCGTGCACA AGCCCAAGGT GCAGCAGGC CGCGCGGGG CGCGCAGGC CGATTGCGG	300
AAGCAGAGTA ATACGCCAG GGGACTTCG TGGCTCGGA GAAGACCAAT CGCTGCAGGA	360
ATTCTGTG CAGTCGAGA TTAAGAGCG TCTGTGAA CTGGAGGAGC AGAAGCAAG	420
GAGCGAAGC TCAACAAGG AGAAGCTAC CCGAGCTCC TGTGGTGT TCCAGCAGCA	480
GCTTCTGCC ACAGATATG ACGACTTTT CAACCTGAC CTGACCAT TGAAGAACAC	540
CGATGATGAG TGGTCCAG GCTGTTCG CACTCTCG GACGGACCA CCTGCAACAC	600
CATGCCCATC GAGGAC	616

(2) INFORMATION FOR SEQ ID NO:1056:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 538 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1643UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1056:

5 GATCGTTGCA AAGAAGCTAT TACGGTGTCT ACACGTTGGA GAACAGCGCC CGATGCCATA 60
 TCCACACCG CCGCTGTCAA ACGCGTCTCT GGGCAGGAGC GCTGACGGGG GGAGCGGCGC 120
 10 AGGGCTGGCG CAGCAGGGCG CCGCAAAATC GTACTACCGG CTGGTGCGGG ACGGCGCACA 180
 GCTCAGCGCG CCACTGCTGC CCGTGTCCAC GCGCGCGGAT GACGCGGGCC TCTACCGCTA 240
 15 CCACAAGCAG ATCAGCAAGT CGTTCCAGGA CGACCTGATC TACTGCGCGC GCGCGCTGCT 300
 GAGCAAAGTC GAGCTGAGCG AGTGCTACCA GCTGGACATG CTGCTGCTGA TGGAGCAGCA 360
 20 GCAGCAGGCC CAGCCGAGTG TCAAGTTCAA CCCATATACG TOGCAGAGCT TCAACCCCGC 420
 GGGCCCCGCA TCGCCCGGCT CCTAGGGGCG GCGGGCGGCG CGGGACCAAT TAGTTGCACTN 480
 25 GAATCNCIAT GTCAAGACTG ACGCTTGCTC GCATCCGGGT TTATGTTTTA TTCCAGTT 538

(2) INFORMATION FOR SEQ ID NO:1057:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 560 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1644RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1057:

50 GATCCTTTGC AAATTGCTC ATAGGAATGT AAACGGACCT GCGCTCCAC CTCTTGGTAT 60
 TGCAAACAGG CATCTTGAGT TCGTTGGGC ATTCCATCTT TATATGCTGT TCTTCATGCG 120
 55

AAGGCACATT TTGTCCTCT TCGGCTTCT CAAAAACAAC CTTATGCACT CTCTCAGTAA 180
 5 TATACACAGG GTACGGGGTC GCGTCCCTG AACATTAGGA AGAACCAGCC AAATGGGCCT 240
 GTGCTGGCG ACTGGCCGGA CTCTGCACK AAATCCACC TCAAGTATAT GACCATCAAG 300
 10 TCCCTGAACC GCGTGCTAAA CTCTGGTAT GTTGTTGCGA TATCTAGCG ACCGGGAGCT 360
 AGCGAATCGG TATGGGGCAC TTCCAATAG TAATGCCCCG GCGTTTGAA CGGATGGTAT 420
 15 ACCCTAGTAA CTTTGCTGC AACTCAATA TGGGCTTGG GCTTTTCCA GTGGGCTGG 480
 TTGTAATTG GTATCAATGT CTGGGAGAT GAGATGGAGC TGTOGCTCGA AGATATGTCC 540
 20 TTTAGCAGGT TATGCTCTC 560

(2) INFORMATION FOR SEQ ID NO:1058:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1645RP

40
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1058:

45 GATCTTGAA GAGGAGGACT ATTCAAGTAA AATGGCACCG CGGAAGATA AGATGGAAGA 60
 GGAGTGATA CGAAAGTACG ACGTGAGAA GAAGAAGAGA AAGAGAGGCG CATAATCCCC 120
 50 AGTGTAATAA ATCAATTCCG CCGTTGCTT GCGTGTAGC ATAATAATAT GTACGATAGT 180
 GGTCAGATAA GGTATTTCAA AAGTTAGCA ACCCATGAAA CATCAAACTT TTCAATGCAA 240
 55 TGATATGTAA GTTGCATATA TTACGAGCTG TGAATAGAG AACTCAAAT GAATACTTTT 300

ACCACACCAT AACAAAGCA CAATGTACG AGAATGAAGA CGATAATGCA GCTTGAATAG 360
 5 TCCACCATG GCGGCATATG GTACCTACTG AACAGCAGAA GCAAGCTAAA CGAGCTCAGC 420
 ATGAGGGACA CCACTAGAGA TACCAGGATC AACGCTGTGA TATAATTACT ACCTTCAAAC 480
 10 TCAGTCTGGT CATTTCOAAG AGGCTGAAC AATGAAAACA TGATTCCAC AGTGGTACCT 540
 GTGTTATGC AAGATACGAG CAGGGTGTG AGGTAAAACA ATGAGACCAC CTCATCGTC 600
 15 TTGTATCCAT ATAGGACATC AAGTTCATG TAACATACTA GGCAGGCTC GTCATCCAG 660
 TTTGGAACIT GCAGTTGGCT ACCACTCCG GCAACGTGCT TTGCAC 706

(2) INFORMATION FOR SEQ ID NO:1059:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1645UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1059:

GATCAGCGGC GGCTGCGGC GCTGTTGCC TAGGCTGCA GCAAGCTGC GCGGCGCGCC 60
 45 GCGTCTGGG CCTGGGCTC CGGCTGCGC GCACCGGCT CGGGGTCTG CCGGCCAAGC 120
 TCCAGCGCG TGGGTTGTC ACTGATCAG TGATCCACG TGCTGCGTC CCGGCGGCG 180
 50 CTGTCCGGG CCGCGGCGC CTCGCGGCG GCGCATGTC CCGGTACAC ACGGCTCTC 240
 GGATCGTACC GGTCTCTC GCGCGCACG TGTGAGGT ACGCGCGCG GTCATGCGG 300
 55 GCGCGATCG CAGGCGCGC CAGCGCGCG CCGCGCGCG GCGGTCCAG TCCCAACTTG 360

TACCGTTCCA CTGCTGCCGC CGCGTCTCTT GCGCTGCCG GCGGCTCCG CGCCGCGGCC 420

5 GCCACTGCCG GCGCCACCGG CCGCTOGAAC CCGTACCATC GGTCCCGCTT GCGCTCAAAG 480

CTCAGCGCAT TCTCGTCCCG GACCTGAAAC GCGGCTCCG CACCATGCC CCGCGCTGT 540

10 TTGCGCGGCC GGAGCAGGCA GTGCGGCCG TCATGATTGG CGCCGAGTT TGTGCAACG 600

CCCGGTCCG CGCCCCCGC CGCGCGCGC TGCCCGCCAC AAAACGGTCA CTTATTACG 660

15 AACCTGCTGA GCCACGAGA AGTCTGAGC GCGCTGCCG GGCTC 705

(2) INFORMATION FOR SEQ ID NO:1060:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1646RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1060:

40 GATOGAGAAC CGCATGGAAG ACAAGCCCAA CGTGGTGATC CTGGGGTCCG GCTGGGGTGC 60

GATTTGTTTC CTGAAGCACA TCGACCGCGG GAAGTACAAC GTGACGGTGG TGTGGCCAG 120

45 GAACTACTTC CTGTTACGCG CGCTGCTGCC CTGAGGCCC GTGGGCAAGG TGGACGAGAA 180

GTOGATCATC GAGCCGGTGG TGAACCTTGC GCTCAAGAAG AAGGGTAAAG TGTCTTACTA 240

50 CGAGGCGGAG GCGACGTGGA TCAACCGCA GCGCAACAG GTGACGATCA AGTCGGTGTG 300

GACGGTAGCA CAGCTGTGCG ACCCGGACAA CCACCTGGGG CTGACGCAGC AGGACTCCGC 360

55 GGAGCTGAAG TAAGACTACC TGGTGTCTGC GGTGGGCGCG GAGCCCAACA CGTTGGGCAT 420

TCCGGGGCTG GAGGAGCAAG GCAACTTTTT GAAGGAGATC CCACACTGGT TCGAGATCAG 480
 5 AAAGCGCTTC CTGTGGAACG TCGAGAAGGC GAACCTGTTG CCCAAGGGGG ACCCGAGAG 540
 AAAGCGTCTG CTGACCATCG TGSTGTGGG CGGTGGTCTT ACCGGTGTGG AGACCGGGG 600
 10 TGAGTCCAGG ACTACGTGGA CCAGGACCTG AAGAGATTCA TGCCCTCCAT CGCTGAGGAG 660
 GTGCAGATCC ACCTGGTGGG GGCCTTGCCC AACGTGCTGA ACATGT 706

(2) INFORMATION FOR SEQ ID NO:1061:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1646UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1061:

GATCAAATGG GTTAGCCCGT CTCGAACGAG CCTGCAACA TAGTGGCAGT AGGGGTGTA 60
 40 GTCTGGATC GTCTCAACC CGCTCAAATT AAATTCTCG TCCAGAAATG AGTCTGCCAT 120
 GCGGTGCCC ATCTTGTTG TGATGTCTG AATCACTGC TGGTACTCG GCTTCAGCTT 180
 45 GTGGAACCTG GCTAGAATG TGCTGAATC CACGAGCAG TCACGGTCTT TCTCGTCTT 240
 CCGGTGCGG TCGAACTCC AGTATCCAG CTTCAGTTT TGGTGAATC CCGGAGTAG 300
 50 CGGCACCTTT ACCTTGGGAC TGATGTCTAT ATCTCTTCA ACAGTATCA GCGCAGCAG 360
 AATCAGGTAG AACAGCATCA CCGGTGTGG CAGCTGGGA TGTAGCTCA TTATCAGGC 420
 55 CCGAAAGAC TCGAAGTCC CTGTAGCAG TGTAGCACC GCTTGAATC TGCAGAGCC 480

TGCGTGTGCT CCGCAGGATA AAGCGGTTC CTCAGAAATT TGAGCTTCAG AGCTGCGTTC 540

5 AGCTCCAGTG GGTTGTGTA TAATTGAACA ACGTCCCA TGGTCAGAT TCGATTAACT 600

AATTGCCAAT TATGTCAAGC GCGTGTAGT TGGTGATGTC GCGCTTCTT GTACAGG 657

10 (2) INFORMATION FOR SEQ ID NO:1062:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 727 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1647RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1062:

GATCCAGCTA GATAGCGTGC CAATTGCTGA TAAATCCTGC CAGAATGGA TAACGCGCTT 60

35 CTGAAACGG CAACGCGTCC GGAGCGCCAG GAGCTGTGC GAGATGGAG GCGTCTGGAC 120

TOGATGCACA ACTAATATTG AATTCACTAT CCGCAGTAG GCGGTACAT AACTGCTTAC 180

40 GTACTCCAC TACGACACTG CGCCCGCAC GCTGCACTG CGATGCGCT TACAAGACC 240

AAGTCTTGG CAACACCTGG ATATGGTATC CATCGGGTC TCTGAGGAG GCGAGTTCT 300

45 TGATAGACC CTGTGTGTAG CGCACTCC ACTCCAGGTC CCGGTACGTC TCTOGATGT 360

CAGCGCAAAG AGCGCAGG TCACTGAGCG ACACACCAT GTGGCTGTAC CCGTGGGCT 420

50 CTGCGTCCC GTGTGTATAC GAGAAGTGG CGTATCTTC GTCCCCCA TTGTGGTCA 480

GCTCCAGAAT GCTCTCGGC TTCAACGCT CGTCCGCTC CGGATACCC AGGAAGTAGA 540

55 GGGTGAATTT CGCATTTGG TGCTGCTCA CCTCCAGTAG CGACATACCT AGCACATTCT 600

GGTAGAACTC CAGCGACTTC GTTGGCTCCT TCACACGTAG CATCGTGTGG TTAAACTTGG 660

5 GCCCCAGGTC CACTGGCTCC GGGTCGACA AGTTGTACTG TATCAACTCA ATCCAGTATC 720

CGTCGGG 727

10 (2) INFORMATION FOR SEQ ID NO:1063:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 615 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1647UP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1063:

30

GATCCGAGCA CGGTGCGGGT GCAACAGAGG AAATATATGG CACTACAGAC AGTGCACAGA 60

35 TGCAGGAGCT GGGCCGCTG GCGCGGCAGC GCTATCTGGA CCGCGGGGAG AGGGAAAAGC 120

TAGACTGGGC AATACGGGAC CTTGCATTGT TAGAAGAAGA CGTAAAGAAG TACCGATGGG 180

40 ACAAGCTGAC GGAACGGGAG CGAAGAGAGA TTGGGACCAA GCGGCAGCTC GTGCAAATTC 240

TGCGGAGCG CGATGCGGGG GCGCGCGCGG CCGAGCGTCC ATTCCATATG CCGGGGAGA 300

45 CCGTGTGTGA GGCTACTGCG CCGCAGGAGA AGAGCTGGGA GGAGCAGCAG GTGCAAAAGC 360

CGGTGCGGCG GGAGGGGCGC TCGGACATAA TTGAGGTGGA GGGCTCTGAA CAGTACGAGT 420

50 TTGTTCTGGA CTGCGGTCC GTTGTGCGCT TTACAGAGGA AGAGACGCTG GCTCCCGGCG 480

AGCGTGTGGA GAAGCAGCTC GAACAGAAGC TCGAGAAGGA AATTAAGGCG GTGGCGTGA 540

55 TTCAAGAAAC TAGGAGGCAG CTTCTGTGT ATGGGTACCG CGACGAGCTT CTGAAGGCGG 600

TGGCGACCA CCACT

615

(2) INFORMATION FOR SEQ ID NO:1064:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 648 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1648RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1064:

GATCCAGCTC ATGCAGTGGC CGATTCCAGC CCTGCCTGTC GTTTAAAGTC TTGAAGTAGT	60
TGGTGCTGAA ATGCTTGTC AATTGTGACA GGTATCGTTT CGAAGATTTC GAGAATAGTC	120
CTCCACCAC TTTC AATGGG TTCTCTCGA ACTGTGAG GAATGAATTC TOCAGCTTGG	180
AGAATGCATG CTGGAAGAG TATATACGAG ACCCAGCTTT CGCCAGCAAT TTGATGAGCT	240
GATTGAAGTC GTTGGCATG TGGCTCTGG GTATGAATG TGGCACAGTC AGCGTCAAAG	300
CTGGCTGGT CATAGGACGG TATGGTCCG GTGGGTACTC GTGGACATG AAGTTATCAA	360
GCAGATAGAA ATCCTTGATT TTGCCCTGT CTGGAGAGA CCGCAGGTAC GCCAGGAAA	420
GGTGGTACAG CGCGCTTCCC CGGTTACGGT AGATCTTGTT CAGAATAAGT TCGTGTGCT	480
TGCTTCATC GTTGGCATC TTGTACTCTT CTACCGCTT GCAAGAGGGG AAACACACCT	540
GGCCCGCGGT GAATATTAAG TCATCTGG TGTCTTCTC CACCAACAGG TCGTACGCC	600
CAACGATCGT CACCAGGATT TCAGAAAAG CGTAAGTCGT GCACATGT	648

(2) INFORMATION FOR SEQ ID NO:1065:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1648UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1065:

GATCTAGCAG GTGTTGAACA GATAATGGAA TGGCTCTCCT ATATTCCAGC TAAAGTAAAT 60
 ATGCCCGTAC CTATACTGCA GTCAGAGGAC AACTGGGATA GGGATGTTGA ATACACACCA 120
 ACACTTCACA GCCTTATGAT GTACGCTGGA TGATTGAAGG CCGCCAAGGA CCTGATGGAT 180
 TTGAATATGG TCTGTTTGAC AAGGGTTCTT TCCAGGAAAC ATTATCAGGC TGGGCGAGAG 240
 GGGTCGTTGT AGGCAGAGCT CGCATGGGTG GTATCCCGCT CGGTGTTATT GCGTTGACA 300
 CTGTTACAAT TGAAACTGTG ATCCCTGCGG ATCCGGCAAA CCTGTCATCC ACAGAAACTT 360
 TGATTGAGGA GGCAGGCTTA GTTTGGTATC CTAATCAGC ATTATAAACT GCGCAGGCCA 420
 TAGCTGATTT CAACCACGGA GAACAACCTC CACTCATGAT ATTAGCAAAC TGGAGAGGGT 480
 TTCTGCTGG TCAAGAGAT ATGTTCAATG AGGTCTTGAA ATATGGCTCC TTCAATTGTTG 540
 ATGCTCTAGT GGATTATAAA CAGCCTGTAT TCGTATACAT AACTCCAACA GGTGAGTTGA 600
 GAGGTGGTTC CTGGGTGTG GTGGATCCTA CAATTAACTC TGACCAGATG GAGATGTATG 660
 CTGATTCCGA CTCGCGGGCA GGTGTGCTAG AACTGCTGG TATGGTTGGT ATAAA 715

(2) INFORMATION FOR SEQ ID NO:1066:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 714 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1649RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1066:

20	GATCAAAAGC AAAACTGTGA CGCAGAAAAA AGTTTGGCTG ACAGACGACA TGCTGCAGG	60
	GCACGAGGG GTGGGCAAG GAGCGTGGC GTTTCAGCG ATGGAAGCTG GGGGACAC	120
25	GAATCTTTTG CTAAACAACA CTATCAACAA GACCAAGTTC AGTCAGCTAA AAAAAGCGT	180
	AGATAGTATC GAACTGCATA ACCAGCAGCT GCGCGCAGAG AACAATAGTT TGAAAATCGA	240
30	ATTCCAAAAG ATGAGTTTCA GATATAACTC CATGGTGGAG AACCTGGTGT CTCTAAAAA	300
	CTACAATAAT TCCCTCGTTG AGAACTTCAA TCTGCTGGTA TCCAGCTGG CGCAACAGG	360
35	CCTGAAGGTT CCCATOCAT TAAACCTGG CAACTATGCA TCTTCACAGG TTGCCAAAA	420
	TTCATCTGCT TCCGACGTTT AACCGCATGT ATGCGCGTTG GGTACTGTAG CACCTACGAA	480
40	CATACCGTTG GCGCAGCTA CCGCGTCGAA AGAAGAGGCC AATCTCTCTA CAAGCGTGG	540
	CCAGGCTTC CATGTTCTGC TGGTGAAGA ATGATTGGT TTGTATCCAA CTATGTTCA	600
45	AATCTTGAG AAAATATGGC TGTTCGGTGG AAGTCGTAC GGACGGCTA TCTGCTATTG	660
	AAACAGTAGA GAAATTCAG TACGACCTG TTCTGATGGA TATCGTATG CCA	714

(2) INFORMATION FOR SEQ ID NO:1067:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 663 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1649UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1067:

GATCGCTGGC GCGGCGAGCC ACATGCGGCG GCATTGTGAC TTCTACCACA TGCAATCTAT	60
GCGGCTGTG GCGCGTTGC GCGGCGAGG GAAGTACGGG CTGCGGAGC GCGCAGGGA	120
GCGACCAAGC GCGCGTTGC CCGACGTGA TGTGGTGCTG ATGCGCGGTC TAGGGTTCTG	180
GCGGATACC GCGCGGCGC TCGGACGGG GCGAGGTTAC TACGACAACT ATGTAAGCG	240
TACCGACGAG CTGCAAGGCA GGAGACCGCT GCTGGTTGGG CTGGGCTCA GCGAGCAGT	300
GATGTTGCAC GTCCCGCTAG AGCGCACGA CCAGTGCTTG GACGCGGTGG CCTGCGGGA	360
GCGACAGTTG AGGTGGGCGC ANCGCGGCGC GCGGAGATA GTTGATATAT AAGTGTATCT	420
AGCGTGTAGT GAAGCTCCCT TTGCAAGCA CGAATGTCCG CGTGGGCTC TGGTTGATGA	480
TCTCGGCTC CAGACGAGC TTGTTGCGGT GGTCTCGAC GCGGGTGGTG GCGACCACAA	540
CGAACTGGTT GCGCAGGTC GCGAAACAAT ACAAGATCTT GATGTGCTCG GTTACCTCT	600
AATCGGTGCC GGTCAAGAAT GTGACTGCT CCCGCATCAG GTGCTCAGC ACGGTGGCCA	660
GGA	663

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(2) INFORMATION FOR SEQ ID NO:1068:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 706 base pairs

(B) TYPE: nucleic acid

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1650RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1068:

GATGGCTCTG CCGGGACTCG ATTTTGTGTC ACCGGCCACG CAAGAAGGAC CTGGGTGCA	60
TCAITGTACAC CTGGGCTCG ACAGGTGACC CGAAGGGTGT GTCGTTGACC CACGCTAACA	120
TGTTGGCGGG CATGGCGGT GTTTCGGTTG TGATCAACCG CGGATTTGTG AAGCCTGACG	180
ATCGTGTGAT CCGGTTCCTG CCGCTTGGGC ATATTTTIGA GCTTGTGTTT GAGTTGACCT	240
GTCTCTACTG GGGGGCTTA ATTGGCTACG GCTCGTCAA GAGTTGAGC GAGGCTTCGG	300
TCCGCAACTG TAAGGGCGAC ATGAAGGAGT TCCGGCGTC CGTCATGGTC GGTGTGGCAG	360
CTGTCTGGGA GGTGTGACG AAGGCTATTG TTGGCCAGGT CACTAAGTTG CCTCGTTCA	420
AGCAAAAGAT ATTCTGGGG GCTTACCACA CCAAGCTACG CATGAAGAAG TGCCACATTC	480
CAGGCGGCGA TCTAATAGGA AGCATGATCT TTAAGAAGGT GCGTGAGACC ACTGGTGGCA	540
ACCTTGGCTA CATCTTGAAT GGTGGCTCTC CATTTGCGG GGATACGCA GTTTTTATTT	600
CCAAGTTGAT TTGCCCCGTG TTGATTGGTT ACGGCTTAAC GGAGACTGTG GCGAATGGCT	660
GATAGTGCC TCCACACCAC TTCAAGTACG GGGTTGTGGG AGACAT	706

(2) INFORMATION FOR SEQ ID NO:1069:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 674 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1650UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1069:

10

GATCCATTTC TCATGGAGAT TAACGCTATA TGGAGGAAA GCAATAACAA GAAGCAAGCC 60

AAGAAGTCTG TTAACCTCTC TATGCTAGGG TTGACTGATT TTACCAAAC CAAAAAGCC 120

15

GATACTACAG ATGTCTGGAG AGCGTTTAGG ATGTACGAG AAGTACAAAT GAAAAAGAGA 180

TTTAGTTATA AATGGGATTA TGATAAAGTG TCCAGGGAAT TGGATGAAGA GACATGGAAT 240

20

AAGATTATTA ATAGGGAAC TTTGAATTTA TTTGCATTAG TGGAAAGATA TACGGTAAAG 300

ATTGAAAACG ATGCCAATAT AACCTATTGG AGTTCGTGCG TTATGGGCAA CTCTGTGCGC 360

25

AAGCATGAGG CTACAGGAGT GAGGCAATGT GCCAACTTCT TCTGTGGTAA ATGGGAAGAC 420

CACCGAAGC AGTTTCCCAA GTCCGCGCGT TCCAAGGCA CAAATATTG CAGTGTGAG 480

30

TGTCAACTAC AATCTTGGGC ATATCATCGG TACTGGTGCC ATGATGTTGG CTCTGTCTTC 540

ACGGGCACCT CCTCAAGGC AACACCACT GGGACACATA CCGCAATGC TGTGGGTCAG 600

35

TCGGCTGGAA CCACGACCAC TACTACCAG GGGCTAAGG AGGTAGATCA ATCCATTTTG 660

ATGACAGCAA GGGG 674

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(2) INFORMATION FOR SEQ ID NO:1070:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 622 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1651RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1070:

10 GATGGGACG TTACCGAAG AGCAAAAAGA AAAGTACGG ATGGGGTTGA AGGACAAGGG 60
GAACGAGTGC TTAAAGGACC AGCGGTACGA GGAGCGGATC AAGTTCTACG ACTGCGGGTT 120
15 GAAGCTAAAA GAAGACCGGG TGTCTACTC GAATGGGTGG GGTGCTACG TGGCCTTGAA 180
CAAGCTGGAG AAGGTTGTGG AGGACACCAC TGCTGCACTA AAGCTGAAAC CCGACTATTG 240
20 TAAGTGTTTG CTTCGTCTG CAACAGCTAA TGAATGGTTG GGTAATTATG CTGATGCTAT 300
GTTGGATTTA TCTGCCGTAT CTCTATACGG CGGTACAGC TGCAGACAA TTGAGCCCGT 360
25 GCTGGAGCGG AATATGAACA AGCAGGCTAT GCAAGTATTG AAACAGAAAC TCTCTGGTGG 420
AGAGAAACAC GAACTTCCTT CCAATACTTC CTTAGCGTCT TTCTTCGGCA TCTTCCTTC 480
30 GGAGACATCG TTGGAGAACT ACGATGAAAC TTCCGAGCA GACCGCATTC TTCTCAAGGG 540
ATTGTGGGCC CTACACGGGC GCGAGGCAGG CTCCTATGAA ATTGCTGATG AAGCCTTTAC 600
35 CGATGCTGTA GAAAAGTTCA CC 622

(2) INFORMATION FOR SEQ ID NO:1071:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 679 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1651UP

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EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1071:

5	GATCGTGATT TTGCGGGCT GCATCTGCA GGCTCCACAT CATGCCGTGC GCCAGGCTAT	60
	GCTGAACATC CCCAGCGGG TCTACTGCAC GTTCCGTGG CAGTCATGC CTGGATCCA	120
10	GTACGGTATC TGTCTACAA ACTTCATCAC ACACTGAAT GAGATCGAAA CCCAGACCT	180
	GGACCGCTTT CTGAGGTGG TACGCAGAT ACCAGACAAC ACCTACTGTA AAATCCGTCT	240
15	TGTGACCTTC GACAAAGTGC CTTTGTCTAT CTCCCTGAAG ACAAACTACC ACTACTTCC	300
	CACCAGGAG CTCTCCGCA ACTCGACAC CGGCCGTGG ATTGAGCAC TCTCAAGC	360
20	TACCCCGCT AAAAAGTAGC AATAGACTGA TATCTCTAT AGAAGTATA AACTATTAC	420
	ATGTAAACCG ATCAGTGAC GAGCGTCA CGCAGCTGT GCAGCATCT CAGTGGTATG	480
25	GCAGTAGCG CGCAGAGC TTCAGATGG CACTCGCC CATGGTCC CCAGAGAGCT	540
	GCTTCAGCG GCGTGTCC AGCTGTGTT ACCGTGGTG CGCCAGCT TCGAAGCTT	600
30	GTACCTCTG CAGTCTCC CCATCTCTA GCTGCGCTT TGTGGTCTT CATTAGTGT	660
	CGCACCATGA TCAGGACG	679

35 (2) INFORMATION FOR SEQ ID NO:1072:

(i) SEQUENCE CHARACTERISTICS:

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|----|----------------------------|
| 40 | (A) LENGTH: 692 base pairs |
| | (B) TYPE: nucleic acid |
| | (C) STRANDEDNESS: single |
| | (D) TOPOLOGY: linear |

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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|----|-------------------------|
| 50 | (A) ORGANISM: PAG1652RP |
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55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1072:

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GATCTTGGTT CGTGAAAACC TTGCAAGTCT TCATGAGCTC AAGAATGGCC TCTGCATCTA 60
 TTCTGTCCGG TTGGATTCTG CCTTCCCTAT TGTCTGAAT CATGCGCGCA AAAGCGCGCG 120
 CGGTCCAGTC ATGACGGGAT CGGCCCTTAT AGGACTTCCC TGCAAGCGGC ATGAGGCTCC 180
 GCCAGCCATT TTCTTCAATA ATATTGACAA GTCTTTCGTT TTCCAACAG ACCTTGTTTC 240
 CGAGACTGTG GAACTGTTC ACGTCTATCT GCTCAAGTAT TTCTACCTT TCTCAGCAG 300
 ACCATCGCAA GTTCAATCT GCCTCTTGA ATGTCTCCAT AAGCTTTTCA TTGATGTTAT 360
 CCACTGCTTT ATTGTCAAG GAGAGGATTA GTATTTTATT AGGAGCTACA ATCCTTCTGT 420
 AAACCAGGTT GTAGACTTTA TGCAGTAGTG TCACGGTCTT GCCAGACCA GGTCCCGCTA 480
 CCACATGAC AGTTGTACAA GGTTCATATG GATGTGTTAC TACTGTGAT TGGGACGTG 540
 TCAGTGCTTT CATTCATGTA TGATACATC TCGAGCGTC GCGAAGGAA TAAATTCTG 600
 AATTTCTGTT TTAAGATACT CAAAAGAAAT GAGATAACG CCGCAAGGG CGGAGTAGAA 660
 TTACAGCAGC TATTGAATAT ATTAGTTTA TT 692

(2) INFORMATION FOR SEQ ID NO:1073:

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(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1652UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1073:

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 60

GATCTCCCA CCATTCTCT CCAGCGCCTT CTGTAAGGT TCCGGCGTT GCTCTCTGC

CTTTTGCTTC TTCTCCTTAC GGATTTTTCG ATACAGCCGC TTATTCAGTT CGAACTGTTT 120

5 CTTCCTCCAC TGTTTCTTCC ATTGCGACTT CGACATGCGT TCGGGAACGG GCGGCAAGGC 180

AGCCCGTGGT TTTGGCCGAC TCAATGTTTC ATCATTATTA GTTTCAGGAG TCATTGCOCA 240

10 GTTTCAGGAC TCTTAGCGCA AGGTCTTGTC ACTGAAGTAC AGTAAATGG ATGCCCTTTC 300

GCGGTGATGA GGCAATGACC TGGTGAAATT TTTGCGCCAT GGTGAGCGTG TATAGTGGTC 360

15 ACGTGACAAC AGTTCAGCCC ATATATGGAG CCCCTAGGTC ATATAAAGG TCAGGAGCCC 420

GCTAAAGTCT TTGTATTCTG ACCTTTTATT GGGGAGCTTT AGGGCGTGIG TCTCTATCCA 480

20 GAGCCGTGTG GTGAAAAGCG TCTCAGCTCA GCGCGTCTA CTACACTGAG ATTTAAAAAC 540

CAACAGCGAA GCAGCAGAGT ATGAAGTCCT TAGCAACTAA ACTCGAAGTT CCATGGGTTG 600

25 AGAAGTACCG GCGGAAGCTG CTGAAAGATG TGTGGGAAAC GAWGAAACGG TCGAGCGCCT 660

GCAACAGATG CCAGGGATGG AAATATGCCA CACTTGA 697

(2) INFORMATION FOR SEQ ID NO:1074:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1653RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1074:

GATCTTTGAT GCTATTTTGT ACCTTAAGGG CTGTTCCGTG CTGGAGATGA TCTCCGGCTA 60

55 TATAGGGGAG ACCGTCCTCC TGAAGGGTGT TGCTTATAT ATAAAGCGGA ATAAGTTTGG 120

EP 0 866 129 A2

CAATGCTACC ATGGAGGACC TGTTTGGGGC CATTAGTGAG GTAGCAGGCC TTGATCTCAT 180
 5 GGCGAAGGCA AAAGATTGGA TTCTAAAGAT CGGTTACCG GTTCTGGACA TCACTGTTGT 240
 TGATGGGAAG ATTTCACTGT CACAGAGACG GTACCTTTTG AGCGGACAAG CTGACGCCAA 300
 10 TGACGACCTA ACCACCTGGT GGATTCCCTT GGAAGTGACA CAGGACTCAA CTTGCACTAC 360
 AACAGAAATG GTTTCTAAAT CCCAAGAAAC AGAGATCTCA GCTACCGATT TTGTGTTCTT 420
 15 TAACAACGAT GCCCAGGGCT TCTTCCGGT GCATTATGAG GATGAGACTA TTCTGGCTAA 480
 CATCTGCAAG AACATAGCGC AGCTGTCTC AGCAGTAAA ATTGCGTTAA TTTCGGATGT 540
 20 TGATGCCACT GGTACCTTCA CGCAACTCAT GGCTGTTCTG TCTGCATTCT CTGCAACGCA 600
 TTGCAAGAC TACTATGTTA TGGAACTCTG CATTGTCCAT TTCCACTCG GCGTCTCAA 660
 25 TCATATATCG CGATGGGTG CAGAGATCG CAAGAAGCTT GCGGGGT 707

(2) INFORMATION FOR SEQ ID NO:1075:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 689 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1653UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1075:

GATCTAATAC TGGAGCGAC TGGGCGTTGT GGCGGTGCT ATCTGTATGC GAACGAGCA 60
 GCGTGTGATG GAGACANATT GTACTACGAT GGTTCGGGC TCATTGCTGT GAACGCGCA 120
 55 GTGTGCGCC AAGCTCGCA GTTTGCGTG AGGGATGTG AAGTGGTTAC TGCAACTGTA 180

GACTTACAAG AAGTGAGAGA TTACCGGATG TCTGTGATGT CGCGAGGGTT GCAGGCAGTA 240
 5 TCGAATAACG TGACTTTTGA ACGTATTCAA GTACCTGTAG AACTGGCCGC GATGCAAGAT 300
 AGGTTCAATC CTACGATTAA CCTGACGAAG GCGAAAGCCC CATACTATCA CAGCCCAGAG 360
 10 GAAGAGATTG CGCTGGGGCC AGCTTGTTGG TTATGGGACT ACCTACGTGG TTGCAGAGGA 420
 ACAGGCTATT TTCTTCCACT ATCTGGGGGC ATTGACTCAT GTGCCACTGC TGTAAATTGTG 480
 15 CACTCTATGT GTCGGATGGT TGTCAACGAA ACATCTGAGG GTAATCTGCA AGTAATTGCA 540
 GATGCGAGAA GATTGGCTGG TGCTAGCGAT GACTGGATTG CAACCGATGC ACGTGAATTT 600
 20 GCAAATAATGA TATTTACAC TTGTTTTATG GGAACAGCAA ACTCCACAAA TGAGACTCGC 660
 AGTCGGGCAA AGAAACTTGC GGAACACT 689

25 (2) INFORMATION FOR SEQ ID NO:1076:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 598 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1654RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1076:

GATCTTATTA ATTTTGATGG TGCTATATTG TAAATTCAAG TAATGATAGC GGTGATGCG 60
 50 GTACGTACCT ATACATATAA CGCACAGTTC TCCATCGTCT ATGGGTGTAT GAAAATCACT 120
 CCAGCCGTGC GACACGCCAC GTGTAATCTA GTGAGTTTCA AGTTCTTCCCT CCTCATGGC 180
 55 AGAAAGTTGG CCGCGGGGGG TGAGGTTCCT GAGCCGCTCC TTGAGCTGGG CGATAAGGCT 240

ATTCTCCCTT TGAGCATGCA TGGGATAACC CTCTAGAGAC ATATGAGCGG AATCTGCACC 300
 5 ATCTAAACCA TGTTGGCTGT TGCTGCCAGT GGCAGCTGCC AGTTTGGGAC TGGACAGACC 360
 TGCTGTCCA TCCTTGTAAG AATCTCGGT CGTTGCGAG TTGGAATCA TGGTTCCCAT 420
 10 AGTGTGCAAG ATTTTCTCTT CTCTGTAG TTCCAGATGG GTACCTGTCA GATTGATCAA 480
 GGACCTCCCG CTTTTACGGC GCGAGAGCTT GGCAGAAGA GAGTGGCCGG GTTGGCGTGG 540
 15 CTTACCAAG GTTGTAAATG GAGGTGTGAG ATCTGGAGT CCTTGGTAGT CTCAGACA 598

(2) INFORMATION FOR SEQ ID NO:1077:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 571 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1654UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1077:

GATCCGGGCC GGTCCGCSG CAACCAACGA TGTCAGTGT GGATACCAGC GACCTGGTAG 60
 GCGTTACGGT GCGAGGAGCA GCGGTGGCG GAAAACCGC AGCAGAGCAA GTACTGGCTG 120
 45 AAGTGGGGGC CGTATCTGTC GGAGCGGAGC TGGCGACGG TCGGGAGGA CTACTGTTT 180
 GACGGCGAG CGTGGCGCA CTTCCGTTT GAGCAGGGA ATGCGCGGT CTTCCGTTG 240
 50 GCGAGGAGC GGATCTTGG CGTGAGGAC AACCGGAGC TGGTGTGCT GAACTGGGG 300
 ATGTGGAAC GCGTGACGA GCTGCTCAAG GAAGCGATG TTGGGCTGA CCGGCGGCA 360
 55 GGGCAACCAC GCGAGGACT GCAAGGAGT GTACTACTAC CTGACAAC TTCGAGCCA 420

TGCGTACATG AAGGCGCTGT AYAAGTACCC GNTCAAGCGG GCGTTCCCGT ACCAGGAGCT 480

5 TATTGCGGGC AACGACGGGC GCGGGTACGC GGAGCGCGAG CTOGAGGTGT ACGAACTTGA 540

CGGGCTGTAC CCGGAGGCGG CGACCGGCGA C 571

10 (2) INFORMATION FOR SEQ ID NO:1078:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 694 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1655RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1078:

30 GATCCACTTT CCACTCTGAC ATGGGTCAAT CAAGCTGGG CACTCAGGT CAGTTC TGAA 60

35 GCAATTGCAG TCCCCGAGT TACCTTCAT TTATTAGAG ACTTAGTGT GTTATAAGTC 120

AGTCTATCG AACAGCTCTC GACAGTCATC GGAAACGAGA AGTTACCGC CTTGAGACA 180

40 CAATCTGTTA CCGACTTTG ATTTACATGC GTTACCGCT CTGGGTCAG TCGCGGAAG 240

CACATGACAA AGGCGAGAG CTAGTTAAGT GAGGTCATT GGGTATGCC GGAAACTCTA 300

45 ATGACTAGAT CATCGAGAA GCACCGGTAT ATAAGACGCA TCACGGTGT GCTCGAGAGA 360

GTGTGTAAAA TGCCAATTGC TTAGCCACTG ATGCCAAATA CACTGGATAA GAGTTAAGTA 420

50 CAAAACGGCC CTGGAGGGA CCGGTGTTC CAAGGAAAG TGTCTTGT CACTGGGGG 480

GCGGGACGA TCTGCAGGT GCAGCGGAG GCAATGGTGC TACTTGGTGC CAAGGCTGCG 540

55 ATCATTGGGC GCAATGTGGA GAAGACTAAG AAGGCGCAG CGGAGATGC GGAGTTGGGC 600

GACTCGGCTG ACTGCGTGCT CGGAATTGGC GGCGTGGACT TCCGGGAGGT CCGGACATG 660

5 AAAGCGCGCG GTGGAACAGA CGTTGCCGC GTTT 694

(2) INFORMATION FOR SEQ ID NO:1079:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 675 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1655UP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1079:

30 GATCTCTCTG ACCGCCCCCA AACGCTGCTC CGCGCACATT GACTCTGGTG TTACCAOCCA 60

TTATGTGGC GGCGTTTCA TCCAGATGC CTTGCCCCGT CGTCATGGTT TTGATCGTT 120

35 CCGTACTCT GGCACGATC AAATACTGG TATTGAGTG CATATGCTT TATTCTATAG 180

TCTGGTACA TAAGCCGGG TTTCAGAGG CGGGTAAOGA TGAOOGTAA CGTTCTTTT 240

40 TCGTATATG TAAAAAGAA TGTCAAACA TTTTTCATGA GATGAAGTT ATACTGGCTT 300

GTTTCTCTT TGAAGTCAGC AATCTCTAAC CTTGAAGGT GATTAAAGG CTGTTGGTC 360

45 GTGTGGAAC ATTGAOGGAG CTTTGCTTGT TGTAAGGAT TAATCTGTGT TCGAGTTTC 420

ACTTTCTGA ACTGGTAGCA GGTCTGAOGG GTCTGGAAG GGCGTGGAG ACTTGCAAAT 480

50 ATAGGOCOA GACAACCTGC GAGATACAGG GGAGCTGCTG CAGCGAACAG GTGGAGTGA 540

GGCGATCTT GAGGACTAGC TGCTCTGGA CGAGATGGC AAGGAAAGCC TGCGGATAGG 600

55 CGTAGCAAGC ACGGAGCCA AGCGGTGAA GGTGTTCATC CTGGAAGACA GCGAGTGGAG 660

AGACACTGGG ACGGG

675

5 (2) INFORMATION FOR SEQ ID NO:1080:

(i) SEQUENCE CHARACTERISTICS:

10 (A) LENGTH: 705 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1656RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1080:

25 GATCTAGCGA TCAATGCGAG CTAACAGATG CTCGTGACATT ATGCATGAGC GCAATCATGA 60
TGGACACATC GAAGCTCAAG CATAAAGTAG AGGACTGGGA CATGCAAGGG TACGCCATCT 120
30 GCAAAAGCGT GTTGACCAAT ATGAACGAGG ATCGGTACTA CAAGGCGATG AAGGCAGCAA 180
AGAATGACGT AGATGGCTTC TCACTGATG AGATTCTTGG TAAGGACTAT AAAGAGTTGG 240
35 TGTTCCCGAG CCGCAGTGCA GATCTAGTGG TTGGGGTACC TACTGTGGTG CGCTCTTTGG 300
AATGGATGGG CGAGAAGTTC GCGACAATG GGACTAGGAA GCTCTGGCAC AGTTTCCTTC 360
40 TGGAGCATAA GTTAGATTTC CTGTTGGTGC TCACAATTAA GAAGGCCAAC GAGGGTTTGA 420
AACGGGAGTT GGCTATCATG GCGAACTCCT GCGACCGTGC GCAGCAGGTC GAGTTCTTGA 480
45 TCCAAAGCCT CACCCAGAG TTGCAGTTGA GCAAGACCTC TGTCTTCTCC CCGGGCTCAC 540
TGTGATTTGA GACGTGGGAC CAGAGAATGC TATCTGCCAG TCGCAAGCAA ATAGTACCTC 600
50 TCCTCAAGAG AACCGTGGCC GAGTTATAGC ATGCTTATGT AACTAAGTT CCAGTTACCA 660
TCTTCCACA TCTCAGCGC AATGTGGGT TTGTGGTCTC CAACC 705
55

(2) INFORMATION FOR SEQ ID NO:1081:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 670 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1656UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1081:

GATCTCTTCC TACCTGTAT TTCTACTTAG CAGGAACCTA AATATGTGGA AATCATGCT	60
AGTAGGATGT TTTTCTACA ACACAGACAT TTACGCCAAC CAGAAGCTA AGGCATGCAG	120
TATCTGGGG AGTATCTGCC TAGGATGGC GTAATGCTAA TAGTGGTTGC GGGAGAGCT	180
GGTGAGGTTG AACTGGGAAA ATTGGGTGG CATAGGTGA CTGTACAGT AAATGGAGCG	240
GCGAGGTGA TCGAATGCC CTGTGAGGT GATCCGCTAG CGGGGCGCG TATTAGACAC	300
TCTGAAGGTG CATTTGAGT CCGCTGAAG GGGTGAATG GCACTGAGG CCGGGGCGG	360
GACTTCACTA TGCTGGCTGC AGAGGACGG TGGGGGCGAA AAGACCTGC GGTGCTGAA	420
CTGGCTGGG CGGCTGCGA CCGCTGCTG GTTACGGCG AACATGCAG CCGTGAGCG	480
CGATGCCCTC CGAGTTTGG ACGGAGCTGA TGGACTACTG GCACTGCCAC AAGCTGGG	540
AAGAGTCTGC GGGGACACAG CAGTACCTGA CGAAATATAA CCGCTGCTG CCTGGGAGG	600
GGGAGCTGCT GGTGGGGAC ACATTGCTCA CGTGGCGA GGTCTGCTG TCAGAGAAGC	660
TGGCGATGAG	670

(2) INFORMATION FOR SEQ ID NO:1082:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 620 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1657RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1082:

GATGATTTA GATTTCACT TCAGGCACAC TAAGAGATGG ACTCCTTACA CTAAGGGTGG 60
 GCTGACGGGC GCGGTGAAC GTGTTTGTCT CGACGGACAG ACTGTGTGT TAAGCGGTGA 120
 CCTAGTAACA TCTGCAGCTC TAGGTGAGGC CGTTGTACCT ACTTCAACA ATTACACTTC 180
 GACTCCTCTA TTGAACGGG AGCCATTGCA CAGCTTTGTT CCACCTTCTA GCTGGGTAA 240
 GAAGCGGTC TCCTTCTCC GCGAGCGGG AACTCGTTT GCTTCAGCTG GTGAACCGA 300
 GGAAGCTGTT ATGACCAAC CGCTGGAACA AAGGTTGATG TCTTCAAGC CACCAAAGGA 360
 CGTGTGCCC CCAAGTGCC TGAGAGAGCT AGTCGTGG CACAATCCAT TCAGAGGAAG 420
 GAATATCTTA TCTGTTAACC AATTCAAAC TGGGACTTC CAGGCTTGT TCGCTGTGGC 480
 CCAAGAGCTG CGTGGGCTG TCGAGAGAGA GGGGTTCTC GAATTGATGA AGGGCGGCT 540
 CTGACGACC ATATTCTATG AGCCATCAAC GGCACATCC TCCTCTTTTA TCGGGCAAT 600
 GGAGCGGCTC GGTGGTAGAA 620

(2) INFORMATION FOR SEQ ID NO:1083:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 578 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1657UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1083:

```

GATCAAGTCC TTCCAGCGGA GCGAGTCTCG CACCGCATAC CAGAAATGCA TTCGGGCACC      60
TAGCGGGATA TTCTGCGGCG TGTACTCGGT CCACGAAAAG GCCCAGCGGT GTGCCAAGCG      120
AAAGGCTACC ATCTCCAAAC AGAGCGCCAC ATTGTGGTAC ACGTAGCCCA TGTGTGTGCC      180
CSGCGAGTCC TGAATCAAGT TCAGGTAGTG GAGAAGCGTG ATKACCATAC CCTGCCAGTA      240
GGATGCAAAA ATGATCAACT TAACACATAA GAATTTAGOC CATGGGTGTG ACTTGCGCAA      300
CTCGTTGTAC AAGCACITCC AGAAGAGCGC CAAGTTATAG AGCGACCATG ACGCGCTCGC      360
GTGTATACA AGCGTCAACC ACTTACATCC CAGATCCCAC TCCAACACCT GGAACGCAGA      420
CATCCCCAAG CAGTACACCG GCTTGAACCA CACGTACTGT AGAATGCCCC GCTTCACAGC      480
CAATAACGCC TTGGGGTCCG CCATATCGAC CATGGGCAAC ACCCAACGTC CCACAACGGG      540
AATCGGGTGC TGGATCCTTT TCTGCTCCGG CGCAAGGT      578

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(2) INFORMATION FOR SEQ ID NO:1084:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 693 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1659RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1084:

```

5      GATCAAAAGT TGATTAAACT AATAAAAGAA TTATTTTATG TATATTGATT GTATAGTCAT      60
      TTTGAGACAA AAATCGTGGG AATTTTAGCG GCCAAACATA AAAGTCAGAC ATTAGAAACT      120
10     GACAGATACT TTATTTACTG CATAATTACA CTAAAAACAA CTGTTCTCAA AAACCTACGG      180
      TTATTGACCG CCCCCTCACT AATAATGTAC TCCTTCTATC GGTTTCTTGC GGGTAGAAGC      240
15     ACGTAAAGAG ATCAGTTTCA CTTTGCAATT TGGGCACTTT TAGGTTTCCA CTTAAGGATC      300
      ATTCTAGTGT ATTTTATGAC CAGGAAAGAA AAGGAGCCTA AAAACCTGAA GGCAGCCAGA      360
20     CCAGCGACTG ATCCCAAGAC AAAAACCAAA TATTTGTTAT TAGAGGTTTC TTCAGGTGAG      420
      TATATTTGGG TTATCATCAT GATCAAAATC AAATTGGAAA GCATCCATAA CATGACAATT      480
25     CTAGTCGGCA CATCAAGGTA GTGATCTGCT TGCTTTTGGA TAGGATCAAC TTTTATTTCT      540
      ACCACTTCAT CCGATTTTAG ACGACCTTGA TTTCTGGTA TTTATTATCG ATGTCTGTG      600
30     GCCATTCAGT ACCCTCAACT ATTGTTTTC CACGGGGCCC TGGGTAACCA TAGCTTCAGA      660
      CTTTGGCTTG GACCCCTGGG AAGGGCCTTT TGT      693

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(2) INFORMATION FOR SEQ ID NO:1085:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1659UP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1085:

5	GATCGAGTGG TCCACCAGGT AGTCTTGGCC CGGCTTCACG TTGGGGGGCG TCGAGAAGTA	60
	GACCCCGTAC TGCTTGCAGC CCTTCTTCAC CTCTCTGTAG CTGCCCCGTC GCCCCACGAT	120
10	GTCGGGGTGG AACTGGGCA GGTACTCTT CAGCACCGCC GGCGGGTCC GCGCAGGGTC	180
	GCACTGCAGC AAGATCGGCT GCACTGTGAT GCCCCGTGTG TTCAGTCCGC GTAGCCACGC	240
15	CGCCAGCTTG TCCAGCTCCG CAGGGCAGAT GTCCGGGCAG TCGGTGAAAC CGAAGTACAC	300
	CAGCGAGAAC CCCCCAGAA GGTCTCTTC CTGGAACGCG TTGCGGTGA AGTCCACGAG	360
20	CTGGAACGCG CCGCCACCG CCGCGCGCC GTACCCCGG TTGCGCTCCG CCTCCCGCTG	420
	CACCTCCAGC CCGCGCTTCT CCGCGAAAA CAGGTAGAAC AGCCCGCGC CGAGCACAGC	480
25	AGCACCGCG CCGCTTCCA CGTGTGAAC TCGATCGCC CCGCTCGAC CGCTGGAGT	540
	GGGTTTCTG CCCCCCAGC GGGATCCGC TCAACGGCG CCGCTTGGC GCGGCTCTG	600
30	GGCGCCCGC GCTCTCTCG TCGCCAGCG TGTTGGGAG AACTCCGCA CCCCCCAAA	660
	CGCTGCTCTC TGCTTGCAA TTCCCGCAGC TTGCTGCAA ACACCGAGTC CTACTGATCA	720
35	TCTCTG	726

(2) INFORMATION FOR SEQ ID NO:1086:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 720 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1660RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1086:

5	GATCAATTGG ATGCCAACCA AGATGAAGAC CATCTGGGTG AGTTAGCAGT GCACTCTGGG	60
	GATACATGGT CTGAGACCGA TAGGAATCTA ATTTTGAAAT TATTGGCCAA GTTCAAGAAT	120
10	ATCAAAGCTA TTTACAAATC CGAAGATGTC CGCCAAAGGT TGATGGAATT ATTGGGTAGT	180
	CGAACGCTGG AAGTGCAGAA ACTGGCCCTA GATGCGTTGT TAGCATACAA GGATCCAGTA	240
15	GCTGTGAAAT ATAGGGACAA TCTGAAGAAC TTATTAGATG ACACGTTATT CAAAGACGAA	300
	GTAACAAAGT TATTTGCTCA GAATGAGTCA AGGGTTATTG TCAACACTGA TGAAAGATTA	360
20	TTAATGCCCT TCATTTTGGG TATTTTATTT GCGGTGTTT AGACAOCTAA TACCAGTGGG	420
	ATCAAAAAGA CAAGAAAAAC TGGGTCATA ACTGTCTGTC CAAATTTAGG TGAGAAGAAT	480
25	ATTACTGACT TCTTGGCTCT GGGTAGTAAT GGTATCAACT ACCAGTACTT CTITGAAGAG	540
	AATGGGGTTA TTCTGACAG TGAGCTTACA GCGATAAATT TTAGGAGAAT GCTTGGCTTC	600
30	ATAAATGTCC TAAGTGCTC GTTGAATGTT TTAGGTTCCA ATTTCCCGGA GCGGTCAAG	660
	ACAACTATTA AACCTCTGCT TTAGCCAATT CACATGTCAG GTGCTACTGG ACAGAATAAA	720

(2) INFORMATION FOR SEQ ID NO:1087:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 651 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1660UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1087:

5	GATCTTATAG ATTTTCATCC CCAAGCTTAC AAAGAGAAGC TTATCCACCT GTTTTAGCCA	60
	GGCTTGGATG TATTTTTCAA TGGTACCCAT GTTCTCCTGG CCCAAGTTCT TGAACAAGTT	120
10	AGTTAGTAGC AGACTAGCCA TCTTCTGCA TTTAGGAGAG TGTTCATTTA CTGATAGGTT	180
	TGCTAGGAAC ACGAAGAATG AGGATGAAAG TTTCATTAGT AAAGCGGGCC CAGATTGTGT	240
15	GATCAGAAGG TTAAGCAATT CCATAACAGA TTGAAGACCT TCTTGAGATG GATACTGCAA	300
	ATTGTTGACT AAAAATTICA ATTGTTTTTC CAGCCTGCTT TTACTTTGAT CATATTCCAT	360
20	GAAGAACTGG TAATAGACAC TCCTGGCAAC ATCCCTGATT TCCTTAGCAT GATTGTGAC	420
	CATGACTTCT GCAAGTTAT CAATAATATC GTACAGCTTC GGAAGAACAA TATGTTTGA	480
25	AACCAAGGAT TTCAAAAATC CAAAAGCCAG ACCTTGCTTA TTGGGCTOCA TCAAATCTGG	540
	TTCAATCCGA CCCAAAACAT ATTGAGCGC AGAATCCTTT AATTCATGT CTTTATAGG	600
30	GATAAGCGCA GATAAAAAC TACAGCCGAC TTGACAAAGT TCACCAGAAG T	651

(2) INFORMATION FOR SEQ ID NO:1088:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 96 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1663RP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1088:

55	GATCGCGGTT TCATCTCCCC ATACTTCATC ACCGATGCGA AGGCCAACAA GGTGGAATTC	60
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GAGAAGCCAC TGTTCCTTTT GTCGAGAAG AAGATC

96

(2) INFORMATION FOR SEQ ID NO:1089:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 583 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1664RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1089:

GATCCTAGGG TGGTTCATGG CACTGAGGG GAGTGTCTT TGGACGGTC GAACCGCAGC 60
 AAGAGTCTGA AGTCTTGAA CGGTCTCTG GAGCGCTGA AGGCAATCG GCAGGGGGG 120
 TGGATTTTCC CAGAGGGCAC GGGTGTGAC ACAACGGAGA TGCAGCTGCT GCCATTCAAG 180
 AAGGGGGCGT TCACCTGGC GCAACAGGG CAGATTCCG TGATTCCGT TGTGATGTGC 240
 AACACGAGCA CGGTGTCAA CCGGGGCTG GGCATCTTTA ACCGGGCAC GATCAAGGG 300
 AAAGTGCTGG AGCGATCGA CACGGCTAAC ATGAACAAG ATGACGTGA CAAGCTTGTG 360
 AGGACGTGC AGGCCAAAT GCATCGGAG TTGAGGGGC TTGGCTAGC GCCTGCGATC 420
 GTGGACACGA GCCTACCGA AGAGGGCTG CGGCCGAGT TTGTGGACTG CAAGGAAGAC 480
 ATCAGGAGG TAACGGCCT CTCGAAGTAA CCTTGGTTG TATCATATAA ACGTTGCGAC 540
 GAGTTATGTA CATATAGGC TGCTAAGTAG GCATTGAGT CCC 583

(2) INFORMATION FOR SEQ ID NO:1090:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 598 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1664UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1090:

GATCCGACTG	ACGGTGAATA	GGCCACCGTA	GCATGCGCCG	CTGAGCGCGC	TGGCGAAGCA	60
TAGCAGCGGT	CCTTCGAGG	CTCTGGTGGC	CAAGACAACG	ATCCACTGGC	CCACCAAGCC	120
CAGTAGGAGG	ACTGCCCACT	GGACTGACAT	CGTCGACACA	CGTTGTGGA	TGCAGAGGTC	180
AATTATCAAG	CCGACAGGA	AGCGCGAGCA	CGTCGAGGCA	ATCGCAAATT	CTGGCAGCAC	240
CGACGCTTG	CCAACAGGC	TCGACAGOGA	GCCCATGTTG	GTGAGGAACA	TCTCCATOGG	300
GCCCAGGAC	AATAGCAACA	CAAGGGCCAT	GAAGTAGGOC	GCTGGGTGCT	GGAAGAAGTT	360
GCGCAGCGG	CGGGGATGT	CCTGGGGCAG	CAGCGGCTCG	GTGGGGCTCT	GCATGCCCCG	420
GAAGGTCAST	GTTGCGGCT	TGACCTTGAG	CATAGTGACG	ATGCTGTGTC	CAAACACAT	480
GCAGAAGCTG	ATCAGCGTAT	ATGCGACAGC	TAGAGTCCTG	AATACAGAG	AAAGGTCAAG	540
GTACGGCAGG	CCATTTCOA	AACCATGGTA	TCTTCAGCAG	CTGCGACCTA	GCACAGAC	598

(2) INFORMATION FOR SEQ ID NO:1091:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1666RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1091:

10

GATCCTTGCG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTTGTAGA AGATAGAAAC 60

CATACTGACT CACGTGTAT TTAACCATC TCACGTAACC TTTTAATTGA CGAACAGTCA 120

15

AACCCTACTT AGCTGTTACA ACCAAGAGGA TAGGTTGAGT CGACATCGAG GTGCCAAACA 180

TAACTTACAA TAGCTACTCT ATCGTTATAT TACCTGTTT AATTTTGTTA TCATAATAAC 240

20

ATTTAATTAT TATTTCAATA ATTCTCATTA TGTTCAGAC TATTTCATTA TGTATTATTT 300

ATTAAATTAAT ACATATTGGG CTTTGTGGA TATAATTATT GTTAATCCTA CTCATATATC 360

25

TAGTGTGTA ACGTCTTAT AACTTTATAA AAAGGATGTG TATAAGCTTC GCTGCAGATT 420

GTCTTTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAAACCAA TTTACTCAAT 480

30

ATATTTAAAT ATTGATAATT AAATTCACA ATTAAATGGG ACTATTAATT AATCCCTAGC 540

GTAACTTTTA TTGTTATCA AATAACATTA CAATATGAT ATTTTGTGTC ATTATGCCAA 600

35

ACTTAAGTTA TGTGTCTACT TGTAGGTAAT ACAATTATAG CACAGTTATA CCATTATATT 660

TATTTAATAT ATTATCCCTA TATTATGTTT TATTAACATA TAAACTGTA CAT 713

40

(2) INFORMATION FOR SEQ ID NO:1092:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 677 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1666UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1092:

5 GATCCTTATA AAATGGGCAA TAGACGTGTT ATAATATAAT ATACAAAATT ATAAATAAAT 60
 ATTTAATAAA ATATAAAATT AATAATTAAA GTATTATAAT AATTAAATAA ATTATTTATT 120
 10 AATAAGTATG GATTTTTAAC TGAAATTTGT TAAATGAAA TAAGAATTGC TAGTAATCTA 180
 TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTTTGGCA CTAATCACTC ATCAGCGGTT 240
 15 GAAACATATA ATTAAATAAA GAATATTAAT TAATTTATTA ATTATTAATT ATTATTAATA 300
 TTATTAATA AATATAATAA ATATTTTAAT TTAAATTATG AATTAAATGG AAGTTGAAAT 360
 20 ACAGTTACTG TAGGGGAACC TGCAGTGGGC TTATAAATAT CTTTAATATT CCATTTTTAT 420
 AAAATAAATA TATTTTTTAA TATATTTTAT AATAACTATA ATTAAATAGT TAAATTTTAA 480
 25 ATTATAATTT AATAATTTAA TAACTTATTA ATTAGAGAGT TAGGGTACAT OCCCCCTAAT 540
 GCTATGCATT ATGGTTGGTA CCACTCTAAT TAATAACTA TAATAAATAA ATACTAATAT 600
 30 TTTATATCAA TTAAATTATA ATTATTTTTT ATTAAATATT TAATATTAAT TAATGAAATA 660
 TATAAATAAA GTATTAT 677

(2) INFORMATION FOR SEQ ID NO:1093:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1667RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1093:

5	GATCCATCGT GGTGTGTTT ATTACCTGTA ATTCCATTGA TATCCTGGCT ATGCAGTGCT	60
	GGAAACGCTC CTCCAGGCCC TCTATTTTGT TATTCAGCTC CAAGTACTCC GCGAGCTTAA	120
10	AGGTCAACGA GAGGAGCCCT GGATTGCACC TGACGGCGAT CTCAAGGACC TTCTCGTGCT	180
	CGTTCTCGTC CACAAACATG GGTAGTTTGT ACCATATCTC CGGCGCAAAG CACATGTGCT	240
15	GCACAGCCTG GCGGTGCACG TATTCCAGC GCTGGGCGAG CACGACTTCG GGCAGGTGGA	300
	GCTTGTGTGC CAGCTCCAC TGGATCCACT TGTCCAGAT CTGCAGCTGG TACTCATGCT	360
20	ACTGACCGGG CGCAGGCAGG TTCTGCTGTG TGGCTGGTT TAGCTTCTGT GGCAGGAGC	420
	GGCGCAGGCC CTGCTCAGG TTGACCACT CCTGGTACAG CGAGCGCGCA TTCATGTAGC	480
25	TGCGCGAGAG CTCTCCGATG AACTTCGGG CGGTCAACTG GTTGACCTCC TGCTCCACT	540
	GGTGTATTT CTCCAGTAC CGCTCCAGG ACTCCACTGG CAGGCACAGC AAGGCGCTTG	600
30	TACAGCTTGC GCAGAATCTC GACCGGCTC TGCTCTCC ACTTGCTCAC CGGCTTCCAC	660
	TGCTCCAGAA ACTGCAGTA GTCTGCCAG AACTGCATCG ACCGGG	707

(2) INFORMATION FOR SEQ ID NO:1094:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1667UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1094:

GATCTAAGGG ATGGGTGACT GCTGCCGGTG CTCACAGCAG TGGCACGTAG CTAGTAATGG 60

5 TCGGAAATCG ATCAAAGAGG GTGGGTCTGG CGGTACAGGC AGAAAGCAGC CCGGCGGATA 120

CAAGTTCCAG TTCTACAAGC ACCTGCAGTT CCAGGGTACG AGGTACCAGG TGGTGACTTC 180

10 GGGCGGTAT CTGATAGAGC GGTACGGGGA GCGCAAGGCG GCGACGATCA GGTGGTTTGT 240

CAAGTGCATC CATCGGAAA TCAACGACGA TGTGACAGG ATCAGCGAGC AGCGGGTGAC 300

15 GCACGGGGTG TCGAAGTGGG AGAAGTGGAA GCTGTTCTTG CTGCTGGTGA CGCTGTGGCA 360

GCGGGGGGGG CCGGAGTACT GGCTGGACAA GACGAACGGG TGCCAGAGCC GCGCGGGGGG 420

20 AGACGGGGCG CGGAAGAGCG ACGAGGTGGA GGAGGGGGGG AGCGGGGGGG GGCAGAGGCT 480

CGTCTGCACA CTGGTGGAGC AGATCATGCG CGAGAACATC ACGGAGGACT ACGACGAGAG 540

25 CGTGCAAGAC GAGAACTACG TGTTCCTGTC GATATGGGCG AACTTCATGG AGGGGTGAT 600

AAACCACTAC CTAGAGAAGG TCATCATACC CAAGTCCGAG CTGAAGGTGT GCCAGCAGCT 660

30 GTACCAAGCC GATGATGAAG ATCATCTCAC TCTATAACGA ATACAACGAG CTCATGGACA 720

AGA 723

(2) INFORMATION FOR SEQ ID NO:1095:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1669RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1095:

GATCAACAGC ACCTCCACCT GCGACAGGTC GAACTCATCG TAAAAAGGCA GCGACGGGAT 60
 5 ACCCTGGTGG GCGGGATGCA CACCGGCATC CAGCATGACC GTCTTGCCCT TATACTGCAA 120
 TATATGGCAT GAGCGTCCAA CCTCATTGCT GCCCCAAGC CCGAAGAATC GGAACGAATT 180
 10 CGTATCTAAC TTCTCTCCG TCATCCGCAA TTGTTTTATG TCTGCTGCT GCGAGGTGCT 240
 GTGCTCTCTA CCCAATGCC TCGACACTGG CTACTGAGAC AATTCCACGT AGCTGCTGCT 300
 15 GCAACTTTTT TGCAGCTATG GAAATACCGT GGTCGGTAG ATTTGATTCT GTGGAGATGA 360
 ACGATCAAAC GGGAACTCTG GTTATCGGTG ATGGGTGTG TTAGTACCA ATCACCGCA 420
 20 GAGACAAGTG CCACTATTAA TTGTAGTACT TACAGGAACA CCGATGCAA GAACTCTTAA 480
 CGGCTCCGTT TACCAACGAT CAACACTTTT CTCTCGAAC GTTATGCTGT GCGGGGTGG 540
 25 CGATTGCGAA TGATTGTGA ATTGAACAG AGAGCGGAAA ATTTTGTTC TCAGTGACC 600
 GTATCTTACA TAAGCTACTG AACTATATGA AATACCGAG TTGCTGAGG ACGCTAGCG 660
 30 CAGTGCTCA AGCAGTATC ATGAGATTGA GTTGTCTGA TGTGTACATT GAGAGTACTG 720
 GG 722

35 (2) INFORMATION FOR SEQ ID NO:1096:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 675 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1669UP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1096:

GATCAACAAG TGCAACAGCA AGGTGCAGTT GCGCCATGTG CCTCGGGGA TGTGATTGA 60
 5 GTGCCAGGCA ACCCGCAGCC GCGAACAGAA CCGCAAGCTG GCGCGGAGA AGCTAGCCGC 120
 CCGCTGGCG CAGCCCCCG GTAGGCCAG CGAACGGAG CTGGCGTTC GCAGTGGGC 180
 10 GCGCAGGGT AAGCAAGGC AGGCGGCAA GAGCGGAG AAACAAGGC GCGCCGCGC 240
 CGAACGGAG GAGCTGGCG GCGCCGCGA CGGGAGGAC GCGAACTTC TGGTCAGCT 300
 15 GCTCGGAAG CCGCCGCGA CCTCTAGTG CCGCGCGGG CCGCGGGGG ACGAGGGGC 360
 GTCTTTTTC GCAATTCOA ATAGACACC TAGTGGCTC TGCTGCCGC GAGCGCAGG 420
 20 CAGGCAGCTA GCACACCAC GTCCAGGCG AGGCTTTTG CTGGCGAGTC GTCCGCGCT 480
 CCGCTGGCTC TGGTGTGCAC ATGCCGCTCC GCGTGGCAC CCGAGTGCAG AGCTAECTAC 540
 25 GTAGTTTTC AGGCTTCGA GTACGCTGA TACTGGCTCT GTGAACTT CCGACAAGA 600
 GTAAAATCT ACCAAAGAAC AAAAGATAT GTTAGTGAGG ATATCTCACA TTCTGTACT 660
 30 GGAAGTACAC AAAGT 675

(2) INFORMATION FOR SEQ ID NO:1097:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1670RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1097:

55 GATCCGGCAA GATCGTCGTT CAGTTGACCG GCAGATTGAA CAAGTGCGGT GTCATCTCTC 60

CAAGATTCAA CGTCAAGATC AACGACGTCG AGAAGTGGAC TGCCAACCTA TTGCCAGCCA 120

5 GACAGTTUGG CTACGTCATC TTGACCACT CCGCCGCCAT TATGGACCAC GAGGAGGCC 180

ACAGAAAGCA CGTTGCTGGT AAGATTTTGG GTTTTGTCTA CTAAGGGGCT GCTATATAGC 240

10 GSTATCTAGCT CTAATGTACG ATACTCAGTG TCTATTACGA CGGCGGCGAG CTCACGGGC 300

CACATACGAG GCCAGCCGCC GACGCCAAGC GGAATTCAG ATGGTTAAT TAGCAGTAGA 360

15 TTAGTAGTAT ATATGTACAA ACAGCATACA CATGAACGC GTGCCGATC ATAATCTTCT 420

ACCTCTCTA CCACCCCTCT TTCTGGTAGA GTGGATGG ATAGGAGTGA CGTCTCGAT 480

20 ACGGCCGATT CTCAGCCCG ATCTGGCCAA AGCTCTCAA GCAGCCTGAC CACCTGGAC 540

TGGGGTCTTG GTCTTGGTAC CACCGGTAGC TCTGATCTTG ACGTGCACAG CAGTGTGCC 600

25 GACCTCTTA CACTTGGCAG CGACGTCTG AGCAGCCAAC ATGGCAGGT ATGGAGAGGA 660

CTGCTCTCTG TGGCCTTGA ACTTCATAAC ACGGTA 697

(2) INFORMATION FOR SEQ ID NO:1098:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1670UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1098:

GATCTATTTG TGCCGTCCG CATTAGCAA GCGCAAGCA TCGATCCAAA TCATGAGAGT 60

55 ACCCTGGGGC TTTCATTTC CAAGCCTTGA TCAACAAATC TGGTACACGA TACATCCATC 120

GCGACAGCAC ATATACCAGA ACGGGAAGC CGACAAGATG GCACTAGACT CTGGTAGGTA 180
 5 ATCTGAGTTC GAACATATCC ACTTCGTTAA TGGTGATAGT TGATAAAAAG AAACGATACT 240
 GAAAATTTTA ATGGTTACCA ATCTCATCTC ATCGCCATAC TGAAAGAATA TTGTAGGTCT 300
 10 CGCAGTGGAA CAAGGATCAA GCCCAGGCTA AGACAATAAT GGTTCAGCG GAGGCAGTAC 360
 AGGAACTACC CCCAGATGAA GAAGAACTGG CCTTGGCTAA GCTAGTGTTC GCGACACAG 420
 15 CAGACTTCCA TGAAGCGCTG CGAAATGCAG ACCTTAATTA TGTTCCTTCA GATGAAGACG 480
 TATATGCCCA GGAGTCGTCC AGTGATGACG AAGAAGGAC TGAAATTGGT CACCTGAATG 540
 20 ATGACCAATT GTTTTTTGTG GACGAAGGTG CAGATACCGA GGAAGAGCA GATGGAGAAC 600
 CGGAGGCCAT GGAGGTGGAC CAGGTTAGCG AGGAAAGCGA CTCGGGAGAG GAAAGCGGTA 660
 25 GCAGCGCTGC ATGGTCAGAT TCGGATGACG AACACTTAAA CGTTACAATA GGG 713

(2) INFORMATION FOR SEQ ID NO:1099:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 743 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1671RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1099:

50 GATCGCTTTC AAACCATCCT GTAACACGC TGAACACAC TTTACAAGAC AACGGCATAT 60
 CGACAATCAC AAGACTTCCT CGAGACATGC CGCCACCAA TCTTCATCGT GTACTGACGG 120
 55 ACTATAATCC AAGTGGCCAT TTGAATTGCG AGCATGATGC CACGCTTTC AACCTGAGCT 180

CGAAACTGG AGATGTACAT CGGCTTCCA ATTCTCTTC GAGTTTAAAT GGAGCACAA 240

5 AAAGGGCTAG CATCCCAAAT ATCTTAGGCT CTGCTOACT TAGTAATCAA TCAAGAACTC 300

CAGACAACCG TTTAACACAT GGTACATCGA TOCATGAGAA CCGGGGTGA GAATTAAACG 360

10 GTGATCAGTC TTTACTCTTT GCGGTAAATA CAGGGCAGGC ATCGGGTAAC TTGGGGGTG 420

TTTACCGGC CGAAACTCC CGAAGGAGCA ATTGGCATGA TCAGAGCCAA TATAGATTAC 480

15 ATTCCAACGC TTTCATTGG ACTGCCCCTC CAAACGAACC TTCTAAGAAC ACTAGTCCAG 540

GTACAACTGT TGCACCTGG AGGTTGTTG GTACAAACAC AAGGAACACA CAACGTGGAC 600

20 CCACGGGAGA TGCTTCCAA GAATCAGTGG AACAGCCGCA ATCAGCTTGG CGGCATCGG 660

ATGAATCTAG CGCAAGAAAT ATGTGGCTA GTCATCATAC GGAGCCAGTA GTGTCTGTTT 720

25 CGACAATCTC TTCTAACACA CGC 743

(2) INFORMATION FOR SEQ ID NO:1100:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 661 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1671UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1100:

50 GATCAGGGAT GCGGAGGACA TTCCGGGACG TTATCGGCGA GCACGACCTA CGGCTCTGGA 60

ACTATGTCAA GTACGGCAAG AAAGCTATTA AGGCTTCCG CTCTCGCCA GACGCATATA 120

55 TTCAACAGAT CATCCAGCTA GGCATCTACA AGTATGTGGG CAGACAATTG CCAACCTACG 180

EP 0 866 129 A2

AGGCTGGGTC GACCAGAAAG TTCTTCAAGG GTAGGACCGA AGCGGGCCGC GCGTTTCTC 240
 5 CGGCTCCGC CAAGTTTGTG AAGACTTGGC AGTCGCCGA AGCATCTCCA AGTGAGAAGA 300
 TTGCTGCTCT ACGTGAGTCT GCTAAGAACC ATTCTGCTCT GCTAAAGATG GCGCGGACG 360
 10 GCCAGGGTGT TGACCGCCAC TTCTTGGTA TGAAGAACAT GTTCGGTGAT GCGAGGAGC 420
 ATCTGCACT CTTCGGGAC CCGTGTTC AGCACTCTG CAGTGGTAT GTGTCTACCA 480
 15 GTCAGCTATC TTCGGAGTAC TCGAGGGAT ACGCTGGTC GCAGGTGAAC GAAAATGGCT 540
 TTGCTCTGCC GTACATGATC AACAATGACT GGTACACAT CAACATTGTT ACMAAGCTA 600
 20 AGAAGTCGGG CTATAGTGTG CACGAGCTTT CACTACTACT TGACCGAAGC AGCAAACGAG 660
 A 661

(2) INFORMATION FOR SEQ ID NO:1101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1672RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1101:

GATCGTGTAT TTGTCAGGCC CATCCAAGCC CTCCTCCGCA CCAAAACCCA CTATGATGGG 60
 50 CAAGAAGTGC TCCAAGCTCG GATGGGCAGC CTGCAACAGT TCTGTCCCT CCGGCTCGA 120
 GAAGAGACGA AGTAGTCTGC CGAATTTACA GCGTTGGGC GCGTGGTTA GCAGGAGTT 180
 55 GGACAGTGCC CAGTGAAAGG CAGATGAGCG CGAGTGGCTT TTTGCGATGG CAGATCCGCA 240

GAAGAGATCT CTCAGGTGTG GCACAGCCAT GGCAGAGTTT ATTATCAACC CGCCGAGGTC 300
 5 GCGTACCTG GACAGGAGGC GCCCAGCGC ATACTGGTCC CGCAGGTGCT TTCCCGCCGC 360
 CAGTGATATT TGGACCAGCG GTACCGGGAC ATCCCAATCG TCATCCAGC ACTTCGAAGC 420
 10 GGAGAACGCA ACTTTTAGGG GGACCCAAAC GCCATGGTCT ATGCCGGGTT CTGTGAGCAC 480
 AGCGCATAGC GGGCTGCGTA TGTGGTTGAT GGTGTCCGCG ATGTCCGTAA CTAAAGCCAT 540
 15 GCTTGATTG CTATGGAAC CTCTCTGTA CATCCGGGTC GAGAAGCCAT AAAAATCGTA 600
 TATCAATTG TTCTCCAACG GGT 623

(2) INFORMATION FOR SEQ ID NO:1102:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 694 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1672UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1102:

GATCCAGAT TAGATATTAC TTAAAGTTC CACAGCTTTT TGATGGCCTA GTTCTGCTGC 60
 45 ACGTCTATAA TGGTCCATCG CCTGTGCAT GTGGGATGA CAGCGACCG CGTGCTCGT
 ATAGAAGCCC AAGGCATACT CCGCTTTGG TAGCCGGCCT TCGGAAGCAA TGGATGCTTT 180
 50 ATAAGCCCAT TTGTAAGATT CTGAAGCGTT GGGTTCAGC ACGCCCTGA CACCAGTTAG
 GTACCAACCA CTCAAAGCGA GCATAGCCAT GGCATTTCC TTTGGTGCTG CGTTTCAGC 300
 55

CTTCAAGTAC CACACGATGG ATTTCTCAGG GCTATACGGC AAGTGTAAAT CAGCGTACTC 360
 5 GTAGCAGTGT CCCAGCTTCC ACTGAGCAAG CGGATAATTA AATTTAATGG CACATCTGAT 420
 GTAAAGGTCT AGAGCCTTTA GGGTATCTTG TGGAACTGTC TGCAACTTGA CAGCCTGCTG 480
 10 CAGCTGTGGA TGCAACAAT CAAATTCATA GATCTTTGCG AGTTGTATA ACGCCTGGGG 540
 AGAGACGGTC TTGTCTGTG CAGCAGCCG CTGGAACCAT CGTATAGCAG AAATGACATC 600
 15 CTGTTCAACA ATAATTCAC CTGTGTCATC ATCCACCAGG CCATTCAGTT GGGAACATAC 660
 CCAACTTATA CATGCTACTG CTCTGTCCGG AAGA 694

(2) INFORMATION FOR SEQ ID NO:1103:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 674 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1673RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1103:

GATCCCAGCT CTACGCTCG CTCAATTGAA AACCTTTTCT ACACTAGCTT TCTTATCAAG 60
 45 GAAGGACGGC TAGTCCTAGA AGATGACGAT GAGGGCTTCC CGGOCATCG ACCCAAGGAA 120
 CCCCCTCCC AGGATCCC GCAAAAGGAA CTGGAACGGC AGGACGGAA TGACGGGGC 180
 50 CAGAAGCATA TCATCTTCCA AATGACATG GCCACGTGA GGAAGCTTAT AGACAAGTTC 240
 CACATCACAG AGTCATTTTT ACCGTGATCA TGTATAAATA GCGGCATCT ACGTATCACC 300
 55 CGCTGGCCCG GCGCTGACCC AACCAAGCAC TGCTAGCAGC TCATCTATCG GCCACTTCGC 360

AATGGTCAGC GGGCAACGT CTGTGTCAG GCGGTGCC TGTAGAGCT CGATGCCCC 420
 5 CCAGCGATC ATCACCOCAT TGTCTGTACA TAGATCTGGA GCTGGATAGT GAAAGGAGTC 480
 GAACGGTCTG AATAGTTCAG TCTCGAGTCT GGCACGCAGG CGCGGTTGG CGCATACGCC 540
 10 GCGGAACAC ACAAACTGTG CCACATCAGC AACCTTATCA GCATTTGAGC CGCAGCACCA 600
 GGTTAATCTT GGTAATCAA TGGTCGAAAT ATGGCCTCCT GAATCTGAAT TGCTGCTACC 660
 15 CCGCGTTCCG CCTC 674

(2) INFORMATION FOR SEQ ID NO:1104:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1673UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1104:

GATCGCTCTA CGAAGTACT GCATGCCTGT CTGGTCTTA AGTTAAAAAC CACAGCACCC 60
 40 AATCGTTTAC ACCGCAATCT TAGACCAGGA GCTAGTGCTT GCGAGCCCCCT GTGTTTCAA 120
 TGGCAGGACT GTTGTTTGGT TGTGAACCTC GCGACTGAG GAAAGGGGGC GGAAGATCTA 180
 45 TTTTGCACTT ATTCGCAACC GTTTAGATAT TGAAAGCAGG GCAACACTAG TAAACTCGA 240
 AATTAGACA TTGTTGAACA GATGTGAGCA GAGGATTCGG GATGCGCTTC GAAATGATGA 300
 50 GGGCGCATGC TGCATACCTT GCGGTGCGG CGTAGTGTAG ACGGTGCAGC GCATGCTGCA 360
 AAACAACGGC GCGGTGGGCT CGCATGCAG GTAGCACAGC ACCTGCAGCA GCGCAGCGGT 420
 55

GCATCCAAGA GTAACGCCAC ATGTCGGGCG CGTTGCTCCG TATGTACAAG TTATGTCATT 480
 5 ATTTCTACAG ATATCATGTT GAATATTAGC CCGCATCAT CTACTCAATG GTATCGTTTG 540
 GTCTATCTCG CTTACGTCAA GATGCAGGCT CCGCCCGGG ACTACGGGC AGGGTGGCA 600
 10 GAGCAGTTTG GTATAGGAGA ACCATGATAC TGCTTTGGAT GCTGGTCCAG ATGAACCTGG 660
 GGCCACACC GCTGAAGGCG CCACCCAGTC CCTCGTAGCG AAGTAAGACT AACAGCTGC 720
 15 GGAAGA 726

(2) INFORMATION FOR SEQ ID NO:1105:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1674RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1105:

GATCTCATTG AGGTACACAG ACACAGCTGG CAGCGACGCC CAGGCTCGA TGGACGAGTT 60
 40 GGCGAAGCAA TCATTCCGGT TGTTTGCCAG CCTGTCTGTG TGTTTGCTTT TOCTCGTGA 120
 GCTCTGGAAC ATAGCAGAAC TACCAGGGA ATAGCCAGT GTAGATGTC GGACCTAAGA 180
 45 TATAGTATGA AAGTGCAAGT GTGCCACAAA GAAGAAGTCT TTGTGGTATG TTGTCCGTTT 240
 CGTAGAGAAA GCTTCCGACC TTATTAATAG AGAGTGTACC GTGTAAACA GAAGAGGGGT 300
 50 ATGTCACCTT GTGCAGCATG TAGATGACT TGGTATCTA GTCAGCGTT GTGCTGAAG 360
 GTGGACCAAA CTAATCTTA GTGCATAGTA TTTATGTGGG GCGGCTTTG AACAGGCTT 420
 55

TTGGGATGCT CGAAGGCGGA ATAATACTCC ACGTGACAAT AATATACGTC AACTATTAAAC 480
 5 GGCTAAATTA TCCCTTGCGA GGAGAACATC CGGTTAATTA CAATTATCAT TCTATATTAT 540
 AAACATATTA TAAAACGTCC ATCTTGCTAA TATAAAAACA ATCTAGGTGG GCTTACCAAC 600
 10 CATATTACAT CAGTAGGCAG CGCGATCTGC ATCCGTCATG GCGTGGAGTA TCCAGTT 657

(2) INFORMATION FOR SEQ ID NO:1106:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1674UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1106:

GATCATCATC AACTATATCG AGAAGGAGTG TGACCGGGCC GTTGCTATGG GTAAATACCC 60
 GTCTACCCCTT GACCGGGAG CGGTCCGAAA GCTGGTGGCA AAAGATTGG AGAAGTTCCG 120
 40 CGTAACCAAC AGCCTCAGC TGAACAGTCT CTCCTATAC TTTGCAACC TAACACGGGA 180
 GCAGCGGGAA ATATGCATAT ACAACAACCTT CACGACTGG AGCTTGCTAA TCCTTCGGGA 240
 45 AGAGGAGAAA ACCAAGTACT GCAAAAGAAA GCAGGGTTCT TGTGAGAAT AACAGTAATT 300
 GTAAGTATAT AATCTGGAGC TTCTCCAGC GGTAGAAGGT CCCAATTGT AATGTACTAC 360
 50 TACCTGAGCA CTGTGTCCG CTCATCGCT CCTTAGAAC TGTGTTCAA GAGCTCGGAT 420
 GGCATCTGAC ACAAAGGTTG CAGACGAGG AGAGTATATC TCCAAGCCT TGGGTTAACT 480
 55 TTCTAACCTA ATATTTTCCA AATAAAGCG AGTCGCAGTG TATCACTGCT CCAATCAGTA 540

GATTCTGACT TCGTAAAATA TGTGTTCTAT GGGTGGAACA TTTTAAGTCA TAGTTTGTCT 600

5 TTTTCCCTG ATATACTTCC AAATACATAT ATCACTGAAG TTCCATOGGA AGCACCTCCA 660

CAGTACGGCC TAAGAAGAGC AGAATAATTG CTCCA 695

10 (2) INFORMATION FOR SEQ ID NO:1107:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 654 base pairs
 15 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1675RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1107:

GATCGGTGCA ATAAACCGCT TGAATGCACT GTGGAAGTAG TTGCGGGTCT CGATATCAAA 60

35 GTGACAAAG AATATCTGCA GGTGTGTAGC CAAAATGTCA AGCACATATC CAGGCACTGG 120

ACGCGAGCCC TTATGCGAGT AAGTTAGCAC TTCAAATGCA CCGAGCTTGT ACTTGTGGAT 180

40 TCGCAGAAGG CTTTCCAAGC TCGACAGCAT GATCAGCTTG TCTTCGTGGA ACGGCTCCTC 240

CTCTATCCCG AGCTCCTGGC CAATTTTGAG AAGGGGTAGA AGGAGAGCAG GGTGCCCCCTG 300

45 CATGTTCCGC AAGATAAACA GATCGAAGAC CTTGGGCGGA ACGGTCCGAA AGAGGGGCTC 360

CAGCACGTAT AGTTGCACTC GTTTCGGGCA GGTGCCCTCA AGAAGATGCT GAACCACTTG 420

50 CTGCTCCAC AACTGCAGCC ACATCTCCAG TTTATCCTCT GTATAGTGTG GCACATATAT 480

ATTGGCCAGC AAACCTGTCA CACTCTTGCC AACCGCGTTC GCAAGAGAGT CCGACCACAT 540

55 GTATCCAGA GCGTCCGAA TGAACCTCGG CCGGACCTCT AGAACAATTC CCAGGTCAAT 600

CCGCTCCGAT AGCAGGTCCA CCATGAAGTA CACGAACCTC TTTGAAGGAC TCAG

654

(2) INFORMATION FOR SEQ ID NO:1108:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1675UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1108:

GGATCCGCTT CCACACCGAA AACGCAGAGG ACCAGGACCG TGTCTCGAAT GTGTTTGGCG	60
ACGCCATCAC GCAAGTCAAC ACGCTCTTTG GCGACAAAGG CATTACGGCC TAGTTTCATA	120
AGAACATCGT GTTCGTCCAG CAGTCCGGCC TGTCCGTGCA GGGCCTCAGG TTCTGTCTCA	180
ACCACTACAA CTGGGTGAC GACACCCCTG GCTCCACCCC CGGGCACTCC CCGGCTGTCT	240
CGCCCGTCAT GACCCCGGTC AATTCTCTGC TGGCCATGTC TOCAAGCACG GCGGCATCTA	300
AAACCCCTC GCGCGGACC GCAACAGCCA GCTACTTTAG CAATGGGCGT TCCACGATC	360
GCGTCGAGTT TGTCTGTGTC ACTGGGACTT CATCGCGGT OCTGGAGCCG CTGTTCCAGT	420
CTATCAATGA ACTGGCCAAA AAGGGCGACC TGCCCTACGG ATACACTGTC GCCTACGGCG	480
ACGCTATTAC CACATACGCT AAAGAGCAGC TCGAAGGTTC CAACGAATTA TTTGGCATT	540
TAGACAACT GAACTTCATT GCTCTGAG CGCCCTGTT ACATAGGTTA TTAATCAATT	600
AAATCCTTTC TCTGGAACCT TATAGAGCCC TGCACCTGC GCTCCGAGC CATATCCTTG	660
CTGACTAGTT GTCAGCGGTA GCCTTAAATA AATTACGTAA TATGTGGTAT TATCA	715

(2) INFORMATION FOR SEQ ID NO:1109:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 568 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1676RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1109:

GATCCCGACA CCAGCATCGG CTGCTCGAAC GGGTGAAGT CTGTGTCCAG CACCTGTGCC 60
 GTGTGCCCCG GGAACAGAGG AATTGTGCTT GCGGCTTGC CCACCTCTC CACCGGCACT 120
 ACCGCGAAGC CCCCTCCGCC CGACGAATTC CAGTAACCG AAATGAACCT GCGGTAGTC 180
 TTGATGAGAT TGAATCCCA AGCATTGATT GTCACCTTGA GGTCTGTGTA GAAGAGTTCC 240
 TTCTTTGTTG ATTGTCCGAA GACGTGTCTA TACTTGGAAG CCGGCACAAA CTTCCTACTG 300
 CAGTCCCGTT AGTTTGCGGT CGGCACAAAG TCCAGTCTG GAGAGTATGA CATACTCAT 360
 CCTTGCAATT CTTTGGGGTT TAGCAGCTCT ATATGCGTGT ACACCGTAAA CATCCGTAAC 420
 TAAATATGTA ACGTGGAAC GAAGGTACT GGAATCTAAA GGGGAAAGAA GTACCCGTTG 480
 ATGGTGATGG TACTGTCAAG ATGGCTAAAG CGAACCTCTG GCTGGTTGG AACTCAGAAA 540
 GGTCACCAGA CTCCTCTTAT TCTTGTTT 568

(2) INFORMATION FOR SEQ ID NO:1110:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 568 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1676UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1110:

```

15  GATCGCGCGG CTCTGCGCTC GCGTGTATTA CTACGCCACG AAGCAATTGT ATAACCCACA      60
    TATTGTAAAG TTTGTACTAT CCTCCATGGC CTGCCCCACC CGACACGCGG CCTTTCTGTC      120
20  ATTGCGGTGC CGGTGGCGGC CGCGTTTCAA CCTCGGCCCA TGGCTCGGCG ATTAGCTGCC      180
    AGTAGCGATG CAACCGAAT GCGAAGATG GAGCGGCAT TGGTGGGTAC GAAAAAGCTT      240
25  TTTACGGGTA CTGTTTGCTG GTCTAAGCA TCACGCCAC GAGGCTAACC AGTATGAATA      300
    CCGACTCTTT TGCGAGCTG GACTTTGTGC CGATCTCTGG GTCCCCATA GCGTTTGTG      360
30  TGCTTCTATC ACGGTATGCA ATGTTATGAT GCGTGTGTC GGAACATGT WCTAACAGGC      420
    GACAGCGTGC TCGATAGCC GTGCGCGCG CTGCGAGCG CACTGACGT GTACACAGTA      480
35  GTTGTGAATG CGTGCCTAAG CGCCAACGG CGGCGCAAG TGGCAGGCG TGGACGCGAC      540
    TGGAGCAGAT GCGGACGCG ACTTGCGT      568

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(2) INFORMATION FOR SEQ ID NO:1111:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 653 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1677RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1111:

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5      GATCTGCAAT TAGGGCATAT AAACGTGGG TACTGTGTCA TCACTAGTGG GCGTATGCAC      60
      TGGTAGTGCC AACTATGCGA ACAAGGGGAT ATGAAGATGG CCTGCGAGGG CTTAATTTTA      120
10     CATAGGCAGA TTGAGCAATC TTCTCTCTCA AGGCTGCGG TTAGCTTTTG TAGGTTCGGT      180
      AGCGGGGCTA GTGCTCTTT GTTGAACGG TTGCCCCCTC GCTTCCACGA TTTGTTCAC      240
15     TCGACTCTCA TTTTGACGCA TCTATATATC TCCTCTGTGC CGCCACGGAA ATCCATTCC      300
      AGCTGCAATA TGTCGCGTC TTTCAGGGG TAGTCTTTTG ACATAACGA TGCTGTGCA      360
20     AGCGCATCT GATTAAAGAA CGTGCCGAC GAGGACTTGA CGTCGGCAC ATACCAATTG      420
      CCTGCTCAT CCACCTTAAA CACCCCGTGT GTGCGGACA CAACTTGCT CTTGAATACC      480
25     ACGGGGTGA AATGATCGG GAGGAGCGG ATGCGCTGCG GAACCCGTC TGTGTAAAGC      540
      CCGATAACCA ACTGCGAGCT GGGGCTGCG GTCCGACGA TGGATCAAA AAAGAGCCCC      600
30     GGATTATTGG TGGTCAGTG GTCAATGAAC GCGTTAACC GGAGCGAGAA GAA      653

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(2) INFORMATION FOR SEQ ID NO:1112:

```

35     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 625 base pairs
          (B) TYPE: nucleic acid
40     (C) STRANDEDNESS: single
          (D) TOPOLOGY: linear

```

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1677UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1112:

GATCGTGGCC TTAAGCCCCCT CGCCGCCCTGC GCCTGGGCAG CCCTCAATGC ACTCGGTCCG 60
 5 CGTCGGCTAC ATCCCAGAGC ACTTCAGGCG GCGCTGCTG TTTGGGCAGA CGCTGGGCTT 120
 CTTTGGGCAG CGCGGGGTCA CGGCCAAGCT CGTCCCTTC CCTAGGGGCT CTGGCCACCT 180
 10 GATCCAGGCG CTCGACGCGG GCGAGCTCGA CCTCGGCTC GGCTCAGCG AGGCGTTGCT 240
 GCGCGGCATC GCAGACAGC CAGCCGGGCG CGCGCGGCG TACCAGATTG CCGGCACCTA 300
 15 CGTCGGCTCG CCACTCAACT GGGCGCTTC CGTGGGGCC GCGTGGCCC TGGAGCACT 360
 GGACCAGCTG GACGGGCGCC GCGTGGGCT GTCAGGCTC GGCAGGGCT CGTACGTCAT 420
 20 GAGCTATGTG CTCGCCCTGC AGCGGGGCTT CCGCGGGCC TTTGGCGGC ATCGGTGTG 480
 CCACACCTTT GCGGCGCTC GCGCGCGCT CAAAGAACG CGCGGGGAC GCTTTCTGT 540
 25 GGGAGCACTT TACCTCAAG CGCTACCAAG ACGGGGGGA GATCGGCTG CTGGGCAACA 600
 TCCCCACCCC CTGGCCCTCG TGGGT 625

(2) INFORMATION FOR SEQ ID NO:1113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 643 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1678RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1113:

GATCGCTGT CGGCATCATC GGAGACATG CCTCATGTT CCGGATGGT AGGATAAAGC 60
 55 AATTGTAGC CCAGACTTGG GTCACAGAGT TTATCAAGAA AACAAGAAGT AACCCCAACT 120

TTAGTCAGGC AACTAAGGAT ACTGCTAGAT GGGCTAGAGA ACAACAAAAG CATCAACTAA 180

5 CCTATAGCC TTAACTCCA GAATAATTTA TCTTATTACT CATTTTCTTC TGGTTATCT 240

CGCTCTCCTC CTGTTATTCT ATAATACTTC COCTGCATTG TCTTCATTAT TGIGTCTGCC 300

10 TGGCGACAGA COGCTTCGTT GTCTCTTCTT TTGTTGACC CTGCACTGAC CTGGCCATGC 360

TGCTCTTTCT AGTGGTTTGG TACAGGTGTC GGGTCTTTT ACACAACTTT TCTACTAGT 420

15 CTTCTATCTA ATCCCATCTA CTTTCTACT TTCCTCTCCT ACTTTATCGG TGGACCCGC 480

TGCTOGTCTT ACGTGGCAGC TTGTAGCATC TATATAATTG TATATATCGT GGTGGCAACT 540

20 ATCTACGGCT GCTATACATC TGCTGCCCGG TCTGATGGC CGAGCCGTC ACCAATGCAG 600

TAAAACCACA TAACTTTTA AGAGTTACAA GCTCAAAAAC GTT 643

(2) INFORMATION FOR SEQ ID NO:1114:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 721 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1678UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1114:

GATCCGGGTT CGAGTCCCGG GAGGGGCTGC AGCGCACCAG CGCTTCTTTT TGGCGCTGGT 60

50 AGTCGAGGAT TGTGACTGC TAAACCCATA CAACCACATA TTGCACTGGT GGCTTGCCCG 120

CCTAGGCGGC CCTGCGGCTC CCGGTAGCC CCGCGGGGG ACCCACGCA CGAGACCGTG 180

55 CCGGCCCGGC ACGGCGATCA CCAGCGGCAG CCGGTGCAGC GTAGGCGGGA CAGCTGAAAA 240

GTTACTACAA TTTGAGGTCT CCCTACTGA CACAGAGGGT CTTACACAGC ACCAGACGAA 300
 5 TCAGCAATGG CTAAGCAATC TCTAGGTATG TGACAGAACG ATGGTGGCTC CGAATCATTTG 360
 GGAATGAGCG TCTCTGGCGC TGGATCCGT GGTAACTGG GCATACGGCC CAGCGGCCAG 420
 10 GCGACCTAG CATAATCCAG TCGTGGAAAC AAGTTGGTGG CCGGCACAG TACTAACATG 480
 TCTGCAGACG TTTCTCTCGA CAGAAGAAAG GCCAGAAAGG CGTACTTCAA CGCGCATCT 540
 15 TCGAGCGCC GCGTGATCAT GTCTGCTCT CTATCCAAGG AGTTGAGAGA GCAGTACAAC 600
 ATCAAGTCTC TACCAATCAG AAAGGACAAC GAGATTATGG TTGTGGGTGG CTCCAAGAAG 660
 20 GGCCAAGAGG GCAAGGTCT TCTGTCTACA GATTGAAGTA CGCTGTCCG GTGACAAGG 720
 G 721

(2) INFORMATION FOR SEQ ID NO:1115:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 633 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1180RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1115:

GATCCGTCTG ACGGTGGTGG AGTCTGGAC AAACCGCGTG CTCTTTGACG AGATCGTGCA 60
 50 GCCACTGGGC GAGATCATCG ACCTCTACAC CCAGTTCAGC GCGTCCACG AGATAGACCG 120
 CGCTGTGGCG AAGACATTTG AGGAGCGGAG GGAGGTATTT TTGTGCGCG CGATGATTAA 180
 55 CGAGAACAGC ATACTGATTG GCCACGGCCT GGAAACGAC CTGAACGTAT TACGGATTAT 240

ACATGATAAA ATTATTGATA CAGCTATATT ATACCCGAAT GGTAAGTTCA AGTCCTCCCT 300
 5 CCGGAATCTA GCCTTTTCAGG AGCTCAGTAG ACGGATCCAG ACGGGGAGC ACGACAGCTC 360
 AGAGGACGCC ATTGCAGCAA TGGAGTCTGT CAAGCATAAG CTGGGCATCC CGCTCGAACC 420
 10 CAAGACGTGG TAGCCCTACG GCTGCTCCTC CAGCCGCGTG AGCCTGTCTT CAAGCTGGTC 480
 CTGCTCTCA ATTAGCGTGT GTATAAGCTG CTTAAGGTTC TGTAAGTCAA TCGGATCAT 540
 15 CCTATCTTCT GGAAGCTCGA ACTTGACGTT CCTGCTGCGG GTCACGATCT GGCTCTTGCC 600
 CACCTTGATC CTGATGCTT CCGGAATTTT GCC 633

(2) INFORMATION FOR SEQ ID NO:1116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1680UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1116:

GATCGGGGCG CGGGTGGCC GGCATTTCGG GAAGCGGCCA CGGAGCAGAG GTGGGCAATT 60
 45 CGAATGCGAT ACGTCTTGGC CAGCGCGGAA AAAAAATTTT CGGCTATATA AGGAGAGGCG 120
 GCGTCTTGC TGCAGGCAGT TTCACTTTCT CTAAAACCAA AGAACATCGA TTCTTTTAGT 180
 50 CACTGCTTC CTTACACCGA AATGCAATTC TCACCGTCTG CTTCCATGCG AGCGCTGCG 240
 GCGTGGCCT CGCTCAGC CAAGTGACC ACGGCCACCG CCACAGAAA CCAGACCACC 300
 55 TTGGTCACCA TCACCCACTG TGAGGACAAG ACCGCATGCA CTGGCAGCT CTCTCAGCT 360

TTGGTCTCCA CCGCCACCGT CACCATCGAC AACGTTGTGA CCTTGAGCGA GAOCTGGTGC 420
 5 CCACTATCCA CCACTGAGGC TCTAAGCCA CCAGTTTCCA CCGCCAAGCC ACCTGCTTCC 480
 TCCAACGGCA CTGTTCTCTC AACTGAGACC CAGTGTCTC CTCCTTCACT GGTGCCGCTG 540
 10 CCAAGGCCCT ACCAGCTGCT GGTGCCITGT TCGCGGGCGC TGCTGCTTTG TTGTTGTAAG 600
 TTTAGTTCCG CCGCGTGAGC CCTCGTTTCG TTTAGAGATA TATAGGAACT TATGTGACTG 660
 15 ATTCTAAGCT TTTACACCAG CATGATTTGG TTCTGGGGCG CACCGA 706

(2) INFORMATION FOR SEQ ID NO:1117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1681RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1117:

GATCATTTCTA AACAGATTAA CCTTCTCTCCA AATTACTTTA TTTCCTTAAT CTCGATAAA 60
 TGGTTACATT GCGACAATAA GGTGCCCGTG GTGCTTACAG ATATACATCT ACGAGAAAA 120
 45 TTTCGCCAC ACACTCGTAT AGAAGAAAGA AATTGATTG AACTTCTGA GCTAGATCCG 180
 ACGTTCAGTG GACTCTTCCC ATTTAAGGTT TTCAACAAAT TCCAACTCA TGTGTTTAAT 240
 50 GCCTTGTAAC ATACCGATGA AAATGTATTT ATTGGAGCTT GTAAGGGCTC GGTAAAACT 300
 GCAATGCCAG AATTAGCTTT ATTGAGTCAC TGGAGAGATG GTAAGGGACG TGCCGTCTAT 360
 55 ATATGTCCAT CTCAGGAGAA AATTGATTTT CTGGTGAAGG ATTGGCGAAA CAGATTTTAA 420

AATGTGGCAG GTGGAAAGGT TATTAATAAA CTCACATTGG AATTAACTAA CAATCTTGA 480
 5 ACGCTAGCCC AGTCGCATTT AATCTTAGCG ACCCAGAGCA GTTTGAOCTG CTTTCTGTC 540
 GCTGGAAAAG AGAAAAAAC ATCCAGACAT TAGAGCTGTT GATTCTAGAT GATCTTCATA 600
 10 TGATCAGTAG TGAATTGCTT GCGCAAGGT ATGAAAATAT AATATCCAGA ATGCTGTTCA 660
 TTCGGGGTCA ACTTGAAAAC GGCCTTCGGT ATAGTC 696

(2) INFORMATION FOR SEQ ID NO:1118:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 659 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1681UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1118:

GATCAGGAAT GATCCCTCAA TTGTCAGGAA TTATGGTTC ATATTGGTTG AATTTCOCOA 60
 GATTACTCCT GATGGTATGG TANIGTCTT CCGTCATAT TTATATATGG AATCCATTAT 120
 40 TTCAACTTGG CAGACAATGG GGATTCTAGA CGAGGTTTGG AAATACAAGC TCATCCTCGT 180
 GGAAACACCA GACGCACAGG AAATTCTCT AGCTTTAGAG ACTTACOGAA AGGCTGCTC 240
 GAATGGGGCG GCGCAATAT TACTTTCTGT GCGCGTGGG AAGATTCTG AGGGAATTGA 300
 TTTTGACCAC CATTACGGTA GGACTGTATT GATGATTGGA ATTCTTTTC AGTACACTGA 360
 50 ATCGGTATT CTAAAGGCGA GGTTAGAGTT CCTAAGAGAA AACTATCAGA TACGGGAAAA 420
 TGACTTTTTA TCCTTTGATG CAATGAGACA CCGCGTCAA TGTTTGGGAA GAGTCTTGAG 480
 55

GGGTAAGGAT GATDATGGGG TGATGGTGCT GCGCGATCGG CGATCTCAAG AAAGAAAAAC 540

CAACTTCCAA AATGGATCGC ACAAGGGCTC TGTGATGCTG ACCTGAACCT TTCTACTGAT 600

ATGGCGATAG CTAATACAAA ACAATTCTTA AGGACGATGG CACAAGCAAC TGATCCGAA 659

(2) INFORMATION FOR SEQ ID NO:1119:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1682RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1119:

GATCGTAAAA TTGCTATAC AATGGTTTGG GTAGGTCCTT TAAAAGGTGG TCAATCTCAT 60

AGTGGCTCAC ATCAAGGGGA ATGTTTAAAA AACGCACTCT CTGATGTGTA GGCGGAGGAG 120

GCCTTGCGTC TCGCGGTCC CTGAACGTG AGCGGCGGA GGGGCGGTAC TCTCGCGGCC 180

GATACGTGCT TTCCCCAGA CCCATGGGTG AAGCTAGTCC ATTAAGTAAG TCTCGAAGGC 240

GATATTGCTA TAATAACAAT GTAATCGTTA ATACTCAGC TCAAGTAAC TTGGGTGGG 300

TCATGTATCA CTTACGGTAG TAGTGGGTG TGTCTTTTGG CGTTAGTAT CGATGAAGT 360

TTGGTATCGA GGAGAAAAAG ATGTTTCATC TTCTCACCA GTACCTGGT TCAAGTGTTC 420

GTCAACAGAC ATTGTCCCTT CCAACTATC CTGTTTGAAG GGCAAGGCT GTGTGTCAAG 480

AACGAAGTTT TCACCATTTT TCCGAAGGC TCGGACAGC GATCGAAGA AATAGGATAT 540

ATACGTACAC CTTTCTTTAA ATATCATTTA AAATATCTG GAATTTCGAT ATGTGGCCAT 600

ACTGGCTCTT CAGCTTCCTT ATCCATGAGA TAGAAGGAGC AACTGTGCG AAGGTGCTT 660

5 CCACAGTTAC TTAAGTTTCC GTAAGCAACA AGGAGTCTGT ATGCGGC 707

(2) INFORMATION FOR SEQ ID NO:1120:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1682UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1120:

30 GATCCAGTGT GTACGGCCAG AGTGGGCTG GGGCACCAGC AGTAOCTGCT CGTCTCGTT 60
 GAAGTTCGA ACAITCCCGT CGCATCAGC ACCGGGCTG AAGTATCTTG TACCGGCGCT 120
 35 GAATCTGCTC CGGGGGTGA TCAGACCCAC ACTAACTGGC GTACTCTGCA ACACAGTGTG 180
 TACCACTTTG ACGTAGCGT AGATTAGGG CAGAACGAAC TGGTTGGCA GAGGTTTTC 240
 40 CTCGGCCAGG TTTCGCAGG GCTCTGTGC ATAGTAGTTC CAGAAGAACC GGTGTCTGC 300
 AGTGGCCAC GAGGCTGGC CCAACCTTC GTTGGCTGC ACAGAGTGG TCAAGTCATA 360
 45 CGTGTACGAA TAGTACAGG TTGCCTTGC GAGGTGGTC GCGAGTAGG CAAGATACTG 420
 GTTGTCTCT GCAGATGGC GGATACTGGT GTTGACCAGC ACCAAAGAGT GGGCGTCAC 480
 50 TTTGAAAAGA GAATGGGCAC CCAGTTTCC CACCACCTC ACGGGTCCG CGTTAGCAC 540
 CACGCGACTA TTGGCAAAT GTAATATCC GATCAGGCT GCGATCTGC GAGTTTCTC 600
 55 ATCTTTAGGG AAATTGCTG GGTCTACGAG TGTACGCCC GAATCGTGAT GCGAGATAGA 660

CAACACCGCT TCACTCTGGG AAGTATTAGA TGGCTTGAAA

700

(2) INFORMATION FOR SEQ ID NO:1121:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 652 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1683RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1121:

GATCTATATC ACCAATCATC ATGGTTTGA AACATTGGT GCTTAAAAG GGACACAGCA 60
 AACTACAAGC AGGCAGCAGC AAGCACTCTG CAGACTAAGG GCAGGCCTCA TCATAAGATG 120
 CTTAGGGCTG AGCTAGTAAA TGCCATTCGG TGCCAAGGTG CTCAGTGTGT CGCTGTGGTT 180
 GATGGGGTTC GACAACCTGT GGTGGTGGGA AATAATAGGG ACTTCTTGGT GTACTCCAGT 240
 ATGGACGAGA GAGGCCTGGC TCTAGTTCAG ACATATACAG AATTGCTTGG CCCGAATTAT 300
 GGTGTAGAAG AGCTGCTGTA CTCGGAACGG CTGCGGACAA TATTGGTCCG CACGACCAAG 360
 TGCTTACTGC TACTTCATTC GAGCAACTTA CAACATTACG ACAAGATAGT TGACAAACGA 420
 GGCATTGACC ATGCCTGGCT GTTGAACAT CCATGTGGGA AGGCTGAGAC GTGGATGACG 480
 GTGCTGTGTT ACTCGGTCAC ACGGTGAGC AAGATAAAGA TGCTGACATG GGTGGGGCGG 540
 CAGTTCCAAG CCGTGCAATG GGTGCACTA GGCAAGGAT CGGAAGTCAT CCAGCTCAGT 600
 AAGTGGGGGC CCGCATGCTG TGTGGTTGCT TACCTCGAC GACTGTATAC CA 652

(2) INFORMATION FOR SEQ ID NO:1122:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1683UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1122:

GATCTCGTCA AATTCGTCTC TAGCATATC AACTTTGTGA CCACAACCTA GAATTCOCOC	60
ATCATGCATT ATGTTTATAG ATGTACAGTT CTAAAAAATT CGGTAATATA ATGAGACCTA	120
TCTCTTTTTC TCATCCTTAT AGTCACCCAA AGTTTAAACA TGTGACATGC TGCCAGATTT	180
ACAGTCATCT GCGGCTATGA TTTCTTGCAG AGACCTGCCA CAATTATAAT GTGTTAATAT	240
ATTGCTTCCT CTGAGGTGTA AGAGGAGAA AAGTTCACTG CTCCTAATG TTAAATTCCT	300
CTGGCAACG TAGCAGCGGT TATCTTCATC TACCACCAA AATTCAGATA TGATCTGGGA	360
TAAGGATAG GTGCTTCOGA TGAGGTGAC TTTCAAAGA TTGTTCTGTA TACCGATTG	420
GTTTTCTTC ATGGAGCAC TTTTAATCCT TCTACTTAGG AATTCGTTAA GGTGTTTAT	480
CGGAATATTG GCGGCGAGTT TCTCAAACAA TGTATCGCA TCTAGCTTCG AACCATTCCT	540
TAGCAGAAAC AGATGAAAGT TTCTCCATCC GCTAAATCT ACCTTCGCA GCAGCTTTTC	600
AAACAAGTTC ATGAGAGCTG CTGTGCTGC ATTTTGTGTT GTGGCATAGA GCTCATACA	660
ATATAGAGAA GCTTGGTTAT AATTCCTAG ATCATCACT AGGATCCCTA ACGCTGTT	718

(2) INFORMATION FOR SEQ ID NO:1123:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 577 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1684RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1123:

20	GATCTGTACA CTTCAATATC GAAOGAAGTG TCACCGGCAT ATTCTGCAGA GATTTGAAAA	60
	AGCCACCAAA GCAATATGAC ATCAGGGTAG AGCTTGGAGC GAGTAATCTC CGGTGATTGG	120
25	TCGATCTCCT TTAACCAAGC AGCAAACCGT GTCTCATGTT GCTTTTCCCA GCTAATAATC	180
	TCATGCACCA CAGCATAGA TTCAGCATAA TGAAGGTATG TTGGGGGGGC CTCATTACAC	240
30	CATTTGATAT ATATTTTCCC CAGGCATCG ATGAACCTCC CTTTGGTCTG CAGCTTCCCA	300
	AAAATAGGTG TCAAAAGCAG TTCCTTGTGC AAGTCAATCA GGGGATAAAA GATGTCAAAG	360
35	GCAAGAGAGG OGAAGTTTTC GTGGTGGGC AGCAACGGC GCGAGAATTG TGCGCCGTAG	420
	ATTCTACGG CAGCATGGGC CAGGTCAGA CTTTTCTCTT CGAGCACAAT AAGGTCAAT	480
40	ATGTAGCTCT GCGCTTTAC TTCTTAGGA TTAATCTCTG AAAGCTCCTC GTCGTCAGT	540
	TTCCAGTACT CGGTCCAAAG TCCACCGGG CGGCTGA	577

(2) INFORMATION FOR SEQ ID NO:1124:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1684UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1124:

10

GATCCATGAC GAGCAGCTGG ACCTGCTGCG CGCTCTGGGC CTGGCGCCAG AGAACAAGGA 60

AACGCTGCAG AACCTCCCGC TGGCGCGCGT CAGCGTCACG TTCAAGGACG TGGTGACGGA 120

15

CTACTGCGAG GCGCAGCGCC TGCTGCTCGA AAAGACGGGC GAGGTGCGCA CCTCCGGGT 180

CTACCAGCAT GCACTACTTG TCCCGTCTTT CACCGTCACA CAGGTACACC GCGCGCGCG 240

20

TGTAAGCTCTG TGGAGGACG TGCTTTGGGT TCAGGAAGGG ATAGGCTTCA AACCTAAGTA 300

CTTATAAGAA CTAGAAACTC TTCTAAAGAG CGCTTAGTGG TTTCATATAT ACAGGACCTA 360

25

GTAATCTTGG CGCACTCAGT GCGCTCTGTC GCTTTTGGCG CTCTGGGCGG CGGCTCTGGT 420

CTGGGCGACG GCTGCTCTCT CGCTCTCCAG CTGCTCCGCG TAGTGCTCGG GGTCCTCGCG 480

30

GAAGCATCTT GCATCACCTG GAATTCCTCA CGCAGTCAAT CCGCTTAGGC TGGGCTCTTG 540

AGTACACGAA GCACGGGAAC GCAGCCTTGA ACTCTCTGCC GCACGGGCGG TGGGCGATGC 600

35

CGCCCAAGCA TGGGCGTCC CAGTTGATCT CGCCCGTGTG GGGATTGTAT GCTCTGCTG 660

CCTTGCGCAG CCTCACCGCG GCTAGCTTTG TCTCCGCGG CGCTCGG 707

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(2) INFORMATION FOR SEQ ID NO:1125:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1685RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1125:

10 GATCAACTTC GCGTAATCCC TTAATCATTG TCACTGCTAA CTGGAAGCTA GTCTGTGTGT 60
 ATGCCTATAG TGAACGTTTA ATGTGATGGT TTTATAGTAA TOGATGGAAC TTTATCCGGC 120
 15 AAGCCTCAAG CTGATCATCA CGTGAGTAAC CGTCGATATG CAGAACAGAG GATACCATAA 180
 ATTGCTATTA GTAATCAATT AATAGACTTA CATATAGCTC AAAGCTGATC ATTGATGGGT 240
 20 CTCAACTCTT TTTCATCGTC TGAACCTTTC GGATTTTCAC TTCTGTATC ATTATACCAT 300
 GTATAATCCT CTAGTACGCT AGTAGTCTAG TATCTGGAT AACCCCCCTA TATTACATAT 360
 25 AATATGAGTA AAATACAGAA TGACGTTAGC GGATAATCTA AGGCTAAGGT TGCTTACACT 420
 AAGTTAACGG GGGCTTCTT ATCTTCAGC TTGTCTTCT AATCAATAGA ATTGTTTTTC 480
 30 TTTTCCACT ATTGGTCCC TGGCAACTG CGAGCCACC CGGTATCCT TAGCCTCTGA 540
 GGTGCTCTT TOGACATCAC CTTCGTCTC CGGATCTCT CGGGAAGTGG TTCAACTGTA 600
 35 CGCTGGTGC ATATTTAGTG TGCTCAAGGT TGCTGAAAAT AGATGCGAGC ACCTTGTCCA 660
 GATATT 666

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(2) INFORMATION FOR SEQ ID NO:1126:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 642 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1686RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1126:

5 GATCCTCTCC GAGGTCAAGA GTTGTGTTCAT GAATTAACCTT CATTTTAGGA ACAAACTTGT 60
 CTAGGGTTCC CGCTACTAAT TCTTGCTCGA CTTTGAAATC CCAAAATTG ACAGTCTTGT 120
 10 CTGCGGAGGC AGTCACTAGC CTCTTCCCAT CACTAGTTAG GTCTAAAGAC CAGATTGCAG 180
 CGGTGTGTGC CTCTTCAATA TTTTCTAGCA TAGTAGAAGA TCGGAGATCA AATAGCTGAA 240
 15 GTTGGCCCGC TCTGTACCC AGAATAACCA AGGCGCCACC TGGTAAAAAC TTACAGCATA 300
 AAGCATAGCC ACAGTCAAGA TTGCGGATAC AAGTTTTAGT CTGTATGTTC CAGACCTTTA 360
 20 GGTTCCATT TGAAGCAGTT GCTAGTAGCT TATCATGCT ACTGATGTCT GCAGCAAGTA 420
 GATCAGTCTT ATGCCCCGC GATTGATAC TATGCAATTT GATGCGAGTA GGCTGGAGCG 480
 25 GTTCTTCTT TTTGTATGG ATTGAGTAGT ACTCTATAGT GTTGTTTGCA GTCTGATCA 540
 CCAGTTCCAA TTTAGATGGG GTACAGACCG TCCATGAAGA TGCTTTTAGC TTAAATAGGG 600
 30 ACCTTACGAG TTGAAAAGG ATGCAAAAGT AAGTTCCAT AC 642

(2) INFORMATION FOR SEQ ID NO:1127:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 675 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: DNA (genomic)
 45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1687RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1127:

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GATCAGGACA GTAGCAGCTT GACTGAGTAT CAGCAGGAAA AGCCTAGCTA ATTGGGGGGA 60
 5 GTACAATTAC AAGTACCTGT CTGACTACTT CTTTTTGTGG GATGCCATAT TTTTTAGGAT 120
 GGCTGCAAC GGGCCGGTGG GGGCGGCATC CAAATTTATG GAGTTGAAGA GCTGTTCAAT 180
 10 GCGCTTTATC CCATCTGCAC CGTCTTTATC GCGGAACATG GCATGCAACT CTTCAAGCAT 240
 GATATCTTCT TCCTCGTGCT CTGATCCGGC GTGTGTGTGG TTTGGGCAGT CTTGTAGGC 300
 15 GCCATTTCTG TAATGTTGAA GCTGTTCTTT GTTCATCTTC AGACCTCCG TCAGGAAATA 360
 TTCAAAGAAA TCGTCTTCAC TAATATCTAC GCGTTCATC TCGAAAAATG TCGAGCGCTC 420
 20 TTCAATCCCA GCTGAAGACC CCTGACCAGA AACATGCTCA TTGCTACCTT CATGTCATC 480
 TTTAATATCT GTCAGGAAAG TCTOCAGOGA CAGGGCAAG GCATCCATAG ACGCTCTTT 540
 25 GTCCGCAGTC GGTACCTCCG TAGTTAATTC AGTGTAGAG AACTCCACCG GCGCTCTAG 600
 CTGTTTGTGTA TGTACCAGAG CGCTTACTAG GTCACCTCTT AACTTTCCTT TGGGTTGAGC 660
 30 TGTCGTTAAC TGGCC 675

(2) INFORMATION FOR SEQ ID NO:1128:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 655 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1687UP

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 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1128:

55 GATCCGTTCC AGTTTGGCCA GCGGAAGCTG GCGGAGGAGG CGGACATCTG GGCTCATAAC 60

EP 0 866 129 A2

GGTGGGATA ACGTAGACTG GGGTGACGAA CAGATCCGGC TCGCAAAGGA GAAGATAGAA 120
5 GAGCAGAAAG AATACCCGGT GCAGGAGTTT GACAAAAAGC TGTATCATAG CAACCCCGCA 180
AGGTACTGGG ATATATTCTA TAAAAATAAC AAAGAAAAC TCTTCAAAGA CAGGAAGTGG 240
10 TTGCAGATTG AGTTTCCCTC TCTATACGAA GCTACCAAGA AAGATGCTGG TTCAGTGACT 300
ATCTTCGAGA TTGGGTGTGG TCGGGGCAAT ACCATGTTCC CGATCTTATC TGCAAACGAA 360
15 AACGAACACT TACGGTGTGT GGGTGCGGAC TTCTCCCGA AGGCCGTGGA ATTGGTAAAG 420
ACGTGCAAAA ACTTTAACC CGGAATGCC CACGCGACGG TATGGGACTT AGCCAACCT 480
20 GATGGTCTTT TGCCCGATGG TGTGAGCGG CATTCGGTGG ACATCGCAGT AATGATTTT 540
GTTTTAGTG CCTTGGCGCC CTCACAGTGG GCCCAGGCTA TGGATAATTT GCACAAAGTT 600
25 CTAAACCAG GCGTAAGAT CCTCTTTAGA GACTATGGCA GGTATGACTT GGCTC 655

(2) INFORMATION FOR SEQ ID NO:1129:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 716 base pairs
(B) TYPE: nucleic acid
35 (C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1688RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1129:

50 GATCTTGTTG AGAACACTCA ACATCGGCGT AATTGCAGAG CCCCCGGTGA CCATACCGAT 60
TTCTTGTTAC GCATTGCTCA CATAGCTGAA CGTCTTACA GGAOCTTTGA ATTCCACAGT 120
55 TTGGCCTGGC TGTAGCCAG CAAACCATTT GGATACCTTA CCGTGACAT AAGATTTGAC 180

AATGATATCG AAATGGCCCT CGGCAAATTT GTTGGAGATA GGCGTGTAGT AACGCAC TTC 240
 5 TTCTACACCA TCCAGCATCA CCTTCGCAGC TAAATGAAAG CCAGTAGGTA TATCAAGAGT 300
 TTCCACGCTT GAACGGAGCT TGAATCTGTA TATCGCAGCA TTTTGGCTTA GAACGATCCG 360
 10 TTCTTCCAAT TCTAATGGCG TCCACTCATT TGAAGAATT GAAGTCCTGC TTCTGTATGC 420
 TAGTAGCAGG CGTGCACCTA CAAACATTGC CAAAGCTAGA ATGCCTAGAA GGTACCATGC 480
 15 GTTCCCCGCT GACCAGGCGA TAACAAGAAC GCGCAATGTA AAGATGCGC TGGGGATGAA 540
 GATCCCATGA ATGGGATCAT CCAATATCTC CATACTCTG CGTTGGTCA TACTAATATT 600
 20 TTGAAAGCTC GTCTAGCTA TGTCTAGTA AGGATGAGAA CGTTAATAT ATGCTTCTC 660
 CTAGTTCTAT AAGCAGGAC TCCTTTGCAA CTGGTGAAGT ATGCTCTAAC GGTCA 716

(2) INFORMATION FOR SEQ ID NO:1130:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1688UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1130:

GATCAGGCGG GACGGGTACT TGCAGGAAGG CCTCAGGAAA CCGAAGGGGG GCGAGGAGGG 60
 50 CTTCTCGACG TTTTTCACG AGACGGGCTC GGGCAAGTTC GTGCGCGCGG CGGTGTAGT
 GGACTTGGAG CCGAACGTGA TCGACGAGGT GCGCAGGGC GGTACCGCG AGTGTGTCOA 180
 55 CCGGAGCAG TTGATCAGG GAAAGGAGGA CGCGGCGAAC AACTACGCG GTGGGCACTA 240

CACGGTGGG CGCAGCTCT TGAAGATAT CCTAGACCGC ATCCGCAAGA TCTGGACCA 300
 5 GTGCGACGGG CTCAGGGCT TCCTCTTCAC GCACTGGCTT GGCGGTGGTA CGGCTCGG 360
 CTTGGGGTCT CTGCTTTTGG AGCAGCTTTC TATCGACTAC GGCAAGAAAT CGAAGTTGGA 420
 10 GTTTGCCGIG TATCCCGCC CACAGGTGTC CACCTCGGTC GTGAGCCAT ACAACACCGT 480
 GTTGACCACC CACACCACAT TGGAGCATGC CGACTGTACG TTCATGGTGG ACAACGAGGC 540
 15 CATCTACGAG ATGTGCAAGA AGAACTTGA CATCTGAGA CCTAGCTTTG CGAACTTGAA 600
 CAACTTGATC GCCCAGGTGG TCTCTCGGT GACCGGTCA TTGGTTTGG ACGCTCTTT 660
 20 GAACTGGAC TTGAAC 676

(2) INFORMATION FOR SEQ ID NO:1131:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1689RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1131:

45 GATCGTGCAC AAGTTTGACG AGCTAAAGCT AAAGGAGGTG TTGTTGAGAG GTATCTACGG 60
 TTATGGTTTC GTTGACCCAT CTGCCATCCA GCAGGTGGC ATCTTGCTA TCATTGAGG 120
 50 CCACGACGTT TTGGCGCAG CCCAGTCCG TACCGTAAG ACTGGTACCT TCTGATTGC 180
 TCGTTGCAG AGAATGACG AGAGCATCAA GCGCCACAG GCGTTGATC TAGCTCTAC 240
 55 CAGAGAGTTG GCCTACAGA TCCAGAAGGT TGTGATGGC CTTCGCTGC ACATGGACGT 300

TAAGGTCCAC GCTTGTATCG GTGGTAAGGA CCTCGTGAG GACGCGAGG CTTTGAGAGC 360
 5 CGGTGGCAG ATTGTGTGCG GTACCCCGG CCGTGTGTC GACATGATTG AGAGAGTWA 420
 CTTCAAGACT GACCACATCA AGATGTTTAT CCTGACGAA GCGAGGAGA TGTGTGCTC 480
 10 CGGCTTCCAG GAGCAAATTT ACAAGATTTT CACCATGTTG CCACCAACCA CCCAGGTGCT 540
 GCTATTGTCT GCCACCATGC CAAAGGAGGT GTTGGAGTG ACGACAAGT TCATGAACAA 600
 15 GCGGTCCAG AATCTTGGTC AAGAAAGGAT GCCTTGACCT TGGAGGGTA TCCAGCAGTA 660
 CTATATTAACT GTGAGAGCG AAGAGTACAA GTACGACTGT 700

(2) INFORMATION FOR SEQ ID NO:1132:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1689UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1132:

GATCGCGCTG AACCTCAGG AGGCACGGCT GGTGATCAAG GAGGCGCTGC AGCACCGCG 60
 45 GCGGTGTGTC GGCAGTGGC GGGACGGGCT GGAGGAGGAC GAGGCGGAC GGGGAACACA 120
 ATATGACGCA GGAGAAGGAG CTGGCGATGC TGGACAAGCT GCTGGAGAAG ACGACGGGG 180
 50 GACAGAACCA GCGCTGAAG CAGACGATGG TGTACTGAC GAACTTGGC CGGTTCGGG 240
 ACCAGGAGAC GGTGACGGG GTGACGAGC TGCTGGGTC GACGGGACTG CACCCGTTC 300
 55 AGATTGCGCA GCTGGGGTGC CTGGGTGCG AGGACGGGA CGAAGCCAAG ACGCTGGTGC 360

CGAGCCTGGG GAACAAGATC TCGACGAGG ACCTGGAGCG GATCCTGAAG GAGCTGTGCA 420
 5 ACCTGGAGAC GCTGTACTAG ATAGCTACAT AGACAGGAAG AACTTGCCGC CCGCGCGCG
 CCACCAGTGG TCGAGACAGG AGTGGGATGT GTGCTCGATG TCGACGGCCT CCGGGGCGAA 540
 10 GTTCAGACG CAGGCTGCG CGAGACGGC GACGTGGCG GACGGGCACG TCGGTAGGG
 CAGGTGAAG TTACCGATCT CCGGAAGTG GTGCACCTG TCGCGCGCA GGAACAC 657

(2) INFORMATION FOR SEQ ID NO:1133:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1690RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1133:

GATCTGAAC TAATGTCATC CCGGAAGAA CATACTAAGA GCTCATGTT ACATGAGAT 60
 40 GAGACAAAGT ACCTGATGTA TAAGATTTT ATTGACATAT GCGCTGGAG GCAAACGGCA
 GGCTACCGC TGCCCGTGT TCGTCTACA CATGACAACA TAATTGTGC AATGTCAGGC 180
 45 GCGTGGACT CTTCAATATG TGCTGCTTTA TAAGCTCACT TCCCAAAGT CCGTGGGCTC
 TACATGCAGA ACTGGTCGA GACGTGGGC TCAGGGCTG TAGAGGTAA GCGGAACCT 300
 50 TGTTACGAC AAGATTGGA GGATATTGAG AAAGTGGCG CGTACCTTAA TATTCCCGTC
 GAGAGATCA ATTTGAACG GGACTACTG CTGGATGTT TCGAGCCTAT GTTACAACG 420
 55 TATCAACAG GTTATACTCC GAACCCAGAT ATTGGCTGCA ACAGTTTGT AAAGTTTGA 480

GCGTTGCGGG AGCACCTGGA CAAGGAGTAT GGACGCGGCA ACTACTGGCT GGTAACAGGC 540
 5 CACTATGCGC GAATCCTATC CCCCCAGACT CGCAGAGAGA CCCACCTGCT GCGGAGCCAT 600
 TATGCGCCAA AGGACCAAAG TTACTACTTA TCCCAAGTCC GGCGGGAGGC CCTGCGGGAC 660
 10 CTCCTTAATG CCCATGGGAT TTCTAACAAA ACGGGAAGTC CGACAATGGG CCGCAGAA 718

(2) INFORMATION FOR SEQ ID NO:1134:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1690UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1134:

GATCAGAAAC ATCACCATAT GGTGTCTGAA GACCTTACGG CGACGGTGGT TACAGGCTAC 60
 35 CATCTCCAAG CCGATGATGC CGCTATTAT GGACACGGCC GACGCGGTGA TTGCCAGGAT 120
 TOGCAGCTTC AGCAGCTGGC TCGAGGTGAA CGTCGAGAAC ATCCCCGGCA GTCCGAGCAC 180
 40 GAGGTCACC GTGGTTGTGT TGTAGGACCC GAATACACAT GTGTAGTTGC TGTCCATGCA 240
 CTGTATCTGA GACGCGGCGT CCATCTTGCA CGTCGGTGGG CTACAGTCTT AGCTCCCGCT 300
 45 CGCACTATA CTTTGTATCT GTTTCGCGCT TGCTGGGGC TAGCCCCCTC GCGCTTGGCT 360
 CTTATCCCTT CTGGAAGTGG TCTCCCTTAA GTTGATCCC AGCGACCTCC TAGTCGAAAA 420
 50 CTGCTGTCTA CGTTGGCCAG GCACTAGTTG CCTCCCACTG CAGGTATCG ATAAGTCTTA 480
 AAATACCACC AAGCAGGCGT TGTACTGCTT CTATACGCA ACCCTGCTT TTGTTGGGC 540
 55

TGACACACTC AAGTGACTGC AAGAAGACTA CCCTACTCAC AGATACCGTC GTCGGTTGTA 600
 CGCACGCTAA AAGACAAGTT AAATCTACGA CACATATAGT GCTCGCAAG CTCACCGCAT 660
 CCGGAAGGAA CAAGCTATTA GAACTGAGA CACCTC 696

(2) INFORMATION FOR SEQ ID NO:1135:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 693 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1691RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1135:

GATCTTCTTT GTATTCTGG TCTTACCTGC CCCAGACTCC CCTGTACTTA ACACCGACTG 60
 GTCCTGCCCTC TGTGTCAACA AGTTGOGGTA TGCTGCTCC GCTACGGCAA AGATATGOGG 120
 CTGGTTGTCT TCCTTGGGTG ACCCATGGTA CAAGTTCACA TAGTCTGGG TGTACACCTT 180
 GATGTTGCTG TACGGATTCA ACGGACGAG GAATAGCCCA GAATAAGTAT ATATCATATC 240
 GTCTTGTAT CGGTTCTCCA AGTTGTACAA CACAGACGCC TCGTTCAAGT GGTCAACTC 300
 GGACATATCG TCTATCTTGT CAAACGTTGA CGGATTCACC GCGCGGTCT CCACTCCAG 360
 CACTTCTCGT TCCTTGCCAT TCACTCTCAC AAGACAGACC TTCTCATCCT TGTCTGTITT 420
 GTTTTAAATT GTCTTGTGG AAACCAACTG TCCTTTCACA AACACCTCT CAGCATCTGG 480
 AACCCTAATC ATTTGACATT GTTCACTCAT CGGGACAGAT GCTCTTGAAC TTATCTAATA 540
 TGCAATAACC AAATTCAACT TTACTTTAAT CACCTGCTG TTACACACGA AGCAATGTTG 600

GATTCATAT TCACAGACC TACTTTTTCG AAACACTTAT TTGTTTATGT CGGGCTCGAG 660

CATACACGTC GGTCACGTGA CAAGGCATG TAC 693

(2) INFORMATION FOR SEQ ID NO:1136:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1691UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1136:

GATCATTATG CAACCGAATC TGGTATCTCA GAAGATTACC GTAGGACTGT GCGTGTGCGA 60

TGGATTACGT TAGTGGGGTA GAGAATGAAG TAAGAAGCAG CTCTGCGATT ATTGTGCGTT 120

TGCGGCTCAT GTGAGGTAAA GCGCTATCC GCAGGGTGGC GGCTTTCTGC AAGAAAATCT 180

GGGCATCAGC CCCCCGAAAC GAAATGCGAT AGTCACCTGT GGCATGCGA CGAGTCATTT 240

CCCCATTGCT ACAGAAATGA ACGGCGAGAA TCGCGTAATG GATTTTCTGT GCGGTTCGTG 300

CCAAAAGGTG ATCTCCACT GGTGCTGCG CTGCGGGCGT GGTGAGCAG AGCACCTGGA 360

AAAAGAACAG CACAGAAGGC CAATGCAGTT GCCAATTGA GGCAATAGCC GAGCAGGAAC 420

AGTCGAAAGT GGTGTTCGT GCGTGTGTTG ATCTGAAAAA TCGAGGAAGT TACAAAAAAC 480

AGTGGGGCAA TACATAGAAA CCGGCGACCC GCGATCGCC TAATCATCTG CCATGGAGAC 540

GCGGGTCCGG CGCTCGAACC AGCGGTGAA ACCTTGAGGG CATGGTGATA CCGGCCCGTC 600

GCGGGGCAC TCAACAGGC ACGTGTAAAT CCTGACAAA CCGAGCGGG TAATTCTTTT 660

CCGCAAGCCG GACGGGTATA TGAATCGTAC GATACCAGTT GTCGA

705

(2) INFORMATION FOR SEQ ID NO:1137:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 636 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1692RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1137:

GATCTAAATA TATATAATTT AATTTATAAA GATTAATATA AACTTTTTTA TTATAATATT 60
 TAAGTATTAA ATTATTTAAA CTATTATTAT CATTATTTAA TAAATTAATT ATTIGATTAT 120
 TAATACTTAT TATATAATTA TTATAAATT TACTTAATTC ATCATTATTA ATATTTATAT 180
 AATTATAAAA ATAATATTTA ATATGAATAC TATTTAGTCT ATGTTCAAAT TTAAATTAG 240
 TTATTAAGAT ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAGT AGATTATCAA 300
 TAATTAATAT ATTATTTATT AATTGTTTAT TAAAAATAA TATTTTATTA TTATAAAGAT 360
 TTAATTTATT TAAATATTGT AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT 420
 TATGTTGATT TATATTATTT AATCTTTTTA TAAGAATTAT TATTAAAATT AATTTTAACT 480
 TTAATTTCTT ATTATTAATT TTTATATTAT TTAATAAATT ATATTCATTT TATTTATTTA 540
 TTTATTTAAT TAAATTAATT ATTAAATTAA TATTTTATCA TTATTTAATT AATTAATAAA 600
 ATATTATAAA GAATGTAGTT AAAAATACTT ATAAAA 636

(2) INFORMATION FOR SEQ ID NO:1138:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1692UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1138:

GATCTTGATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATTCTTAT TCCTACTAGT 60
 ATTAAAGTAT TTAGTTGATT ACTAACTATT TATGGTGGTT CATTAGATT ACTAACACCA 120
 ATATTATATC TATTATCATT TTTATTTTAA TTTACTGTAG GTGGTTTAACT TGGTGTAGTA 180
 TTAGCTAATC TATCATTAGA TGTAGCATTG CATGATACCT ATTATGTAGT ACTACATTTC 240
 CATTATGTAT TAAGTTTAGG TGCTGTATTC TCTATGTTTG CTGGTTATTA TTATGAAGT 300
 CCTCTTGTTT TAGGTTTAAA TTATAATGAA AAATTATCAC AAATTCAATT CTGATTAAAT 360
 TTCTTAGGTC TTAATATTAT TTTCTTCCTT ATGCATTCTT TAGGTATTAA TGGTATACCA 420
 AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTGAA ATTAGTATC TTCATTGGT 480
 TCTATAATAA CTATTATATC ATTAATGTTA TTCTTTATA TTATTTATGA TCAATTAATA 540
 AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAAT ATATAAACT AACTGATTTT 600
 ATTGAATCAA ATAATATTTC CTTAATGAAT ACTACTAAAT CATCATCTAT TGAGTTTATA 660
 TTAAATTCAC CACCTCTTAT TCATTCAATT AATACTCTC TAATCAATC TTAAAATAT 719

(2) INFORMATION FOR SEQ ID NO:1139:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1693RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1139:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCATT GAGCTCTTAC GAACTGCACA	60
AACTACTCG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA	120
AGTACCCCC AGGCTATTTT TCTTACCGC CTGGTGTGTG TCTATATAAC CGGTGTGATT	180
TTTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGGCCCA	240
TGCGAAAATC TGCTTTTITA CGCTGTGTTT TOCCAGTCTT AGCACTGGCA GAAAAAAGAT	300
GTATGGGTA TAGGCGCTGG CCCCAGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA	360
AAAAGACGTG GCGCGCCCG CGGCAGACG AAGAAAAAT AGCGGCCAC CCTCCAAGC	420
AGACGACAGG CGAGACATAA TAAATCCCA CACCAAGGA AGAAAGTCTT GTGCAAGCTC	480
CCGGCTCAT AGCTGCCAT TCTGTTCAT CCGGCTTGA AACCCAGTAG TGGCATGTCA	540
AAGCATGCT CCGAGCTCC GCTGCCTTGC AGTGACATC CTCTTCTTAA CCCCAGCCAG	600
ACTTCCATA CTTGGCACT TCACATAGCA TATCACTTTT CAGATCACTT AGTGACATT	660
CCGGTAAGGA ATGGCACTCC AATGCGACA AACCTCTTCC TACCCCGTGA CTTA	714

(2) INFORMATION FOR SEQ ID NO:1140:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

TCGCCAGCGC GGTTGTGTC ACCCGCAGCA ACAGGACGAG AACTCTCCGC TTTCGGGCTC 180
 5 GTGAGATTTT GGATTCAGTC ACGTGATTC AGTAGAGGTT ACCCGGAAAG AGCGGCTTGG 240
 ATGCCAGTAA TCACCGCGGT TATCCCCGGC CTTCTTAAGC ATTCACTCTG AGCGGCTTCT 300
 10 CCGCGCTTCC TTGTTCTCCT GGAATTTCAA AGGGCGGGCG GTATATAGGC GGCGAGAAAA 360
 ACACCGTGGC GAACGTTGTT GCCGCCAAGC GTEATCGTGA AGAACAAGCA TAATGGTTTC 420
 15 CCCTTCGGTT ATTAAACAGG TGCAGGCGCT AATCCAGCAG AACCGCGTGT TCATTGCATC 480
 CAAGACGTAC TGTCCGTATT GCCAGGCGGC AAAGCGTACG TTGCTGGAGG AGAAGCGCGT 540
 20 CCGGGCAAGC GCAGTAAAC TGTTCGAGCT TGACACCATG GGCGAGGAGG GCGCGGTGAT 600
 CCAAGCGGCG TTGCAGGAGC TGAGCGGGCA GCGCACGTGT CCAACATCT ACATCAACGG 660
 25 GCGCCATGTG GGTGGCAACA A 681

(2) INFORMATION FOR SEQ ID NO:1147:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 667 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1698RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1147:

50 GATCTGGTGC TTTCACGC GCCGCCCCAG ACAATTTCCG GAAGCATACA TATCGCCATT 60
 ACATAACAG ATTTTATGAC TAGTACAGTT AGGTATGTGG GAGATCACCG GAATACTCC 120
 55 TATATCTTAT TTCTGTATTC TCAGGTACTG ATGCTGTG ATGAACGGGC AACCTGTGA 180

CTTGGGGATT AACACTGTAT GAAGCCGGAC GGGGGGGTAG CACATTGGTA CTAGGCTGGC 240
 5 TGAATTCATA ATTGGAATAA GGTGCTGCTT GCCCGATGG CTGGTATGTC CGGTGCTGGG 300
 TTGAAGGCAT AAAATTGCTC GAGCTGTAGC ATGTTGCCTT CTCTAGCATC ATGTTGTATG 360
 10 TAACCTCCGC ATTGGCCAGA ACCTGGCGCA ATGATGCAAG ATCTTCTCTC TTCTGGGCAT 420
 ATTTACCGAT GAGTTTCGTG ACATGTGGTC TAAGCGTGT GACGGTAGAG TAAAGTTCG 480
 15 ATATCTGTC TTGTTGTGTC ACATCCACAT TCTGGGAGAC CCTTAGTTTC TGGAGCAAGT 540
 TCTGACATT GCGGCTTC GCAAAGACAG CATGCTCTG AGCAGCTCC TTAGCTACCT 600
 20 CCTCTGCAGT TGGCTCAGG CATAAGCGA CATAATTCAC TGGGAAAAT ACCAACCTTG 660
 CCGCGCA 667

25 (2) INFORMATION FOR SEQ ID NO:1148:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 572 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1698UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1148:

GATCAGCAAG CTGGCCGCCG CAGGTGTGCA TCTGGGGCAG TCTACGTGCT TGTTGGCGCTC 60
 50 CTCCTCTCAA CCATACATCT ACGGCTCTTA CAAGGGCATC CACATCATTG ATCTAAACCA 120
 GACGCTGTTT CACCTGAAGA GAGCTGCGAA GGTGTTGAG GGTGTTGCGG AGAATGGTGG 180
 55 CCTGATCTTG TTTTGGGTA CCAGAGAAGG GCAGAAACCA CCTTTACGGC GGGCTGCAGA 240

GAGGGTGGT GGCCTGTTATG TCGCCTCGAA ATGGATACCG GGGACCTTGA CAAACCCAAT 300
 5 TGAAATATCC ACTGTCTGGG GCAGGCATGA AGTTGACTTC GAGGGCAATC CAACTGGCAG 360
 GGAATTGACA GAAGAAGAGA ACATCCGCAT CATAAAGCCG GACTTAATTA TTGTTTTGAA 420
 10 CCCAACAGAA AACATGAACG CGTTGAGAGA GGCTATGCAG GCTAGAGTGC CACCTATTGG 480
 GATCATTTGAC ACCGACTCAG AGCCTTCAAT GGTACATAC CCGGTCCCTG GTAACSAACG 540
 15 ATTGCTACG TTCTGTAAGT TTACTTGTA AC 572

(2) INFORMATION FOR SEQ ID NO:1149:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1699RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1149:

GATCTGGGTG TATATTTGGA TGTATATGGA CTTACACTT TOGGAAGCAA TGGAACTOGA 60
 40 AAGCTGGTGG ACCACTCTGC TGTATCTCTG TAGTCTTTCT GAAAGACCG TAAGAAAATT 120
 AACCTTGAGC GCGATAGGG AAGATGCAAC TTAAATTTC TCTACTTGGT TACTCAAATA 180
 45 CTGATATAAT AATGCAGCCT CAAATATGCT GTGGAAAACA CCACTTTGCG CGTTGGGAAC 240
 ATTGGGTGGG ATTTGATAA CCTGATTGGA GATCGGGAAC AAACCTGACG TAGTAGCCAG 300
 50 TAACGTGTAG GAAATATACT TTAAACGTC GGCTCGGGC ACCATGTTGC TGTAGTATGG 360
 GTTAGACAGA TATGCCAATG GAGTATCGTG CTGCTGGGC CGCTTGGGA CCGGGCCGCC 420
 55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1693UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1140:

15	GATCCGTAAC TTCGGGATAA GGATTGGCTC TAAGGATCGG GTAGTGAGGG CCTTGGTCAG	60
20	ACCGGGCAAG TGTGCTGTG GTCTGTCTC GGGGCTTGC TCCTGGGAC GGACTGCTTG	120
25	CGTGCTCTGT CGTAGACGGC CTGGTAGAC CATCTCTGGT CGTGGCTGC TACAATTAA	180
30	GATCAACTTA GAACTGGTAC GGACAAGGG AATCTGACTG TCTAATTAAA ACATAGCATT	240
35	CGGATGGTCA GAAAGTGATG TTGACGCAAT GTGATTTCTG CCCAGTCTC TGAATGTCAA	300
40	AGTGAAGAAA TTCAACCAAG CGGGGTAAA CGGGGGAGT AACTATGACT CTCTTAAGGT	360
45	AGCCAAATGC CTGTCATCT AATTAGTGAC GGCATGAAT GGATTAAOGA GATTCCACT	420
50	GTCCCTATCT ACTATCTAGC GAAACCACAG CCAAGGGAAC GGGCTGGCA GAATCAGGG	480
55	GGAAAGAAGA CCTGTGTGAG CTGACTCTA GTTTGACATT GTGAAGAGAC ATAGAGGGTG	540
60	TAGAATAAGT GGGAGCTTG GGGCCAGTGA AATACCACTA CCTTTATAGT TTCTTACTT	600
65	ATTCAATTAA GCGAGCTGG AATTCATTTT CCACCTTCTA GCATTTAAAG TCCTATAOGG	660
70	GCTGATCOGG GTTGAAGACA TTGTCAGGTG GG	692

(2) INFORMATION FOR SEQ ID NO:1141:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 673 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1694RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1141:

GATCGTTCC TTGAGAAGCA CCTAAAGCCT GAACTCCTGG CAGAAGCGAT CAAGGGAACC	60
TCTTGGGAGG GTAAAGITAG TATTAACTTG GTAGACGGAT TGGACCACTC GTATTACTTC	120
GTCAGCACGT TCGTGCCGGA ACACGCAAAG TACCATGCAG AAAAGTTGGG TCTAGTTTGA	180
GATTTGAAGT TCGGCCTGTT AATTGGTATA TACTTACATA TTTAGTCATA TGACGGCTTC	240
AAGTACTCTG ATTCTGCATT ATAAGTGCAG CCGAATGCCA GCGTCGGCA GTAATGGCAA	300
CGCAACTGA ATTTGCGGT AGTTCAACCT TGGCGGTTG CAGCACGGT ATGCTCGAG	360
CAGACTCAA CGTCGCTATT TGGCGGTAT CTACAGCTC GTGGGATCT CCTGCCCCA	420
GACAGCCACA GATATCACTC TCCAGCCCC AGGAGTAGAG TTCACCTTIG TGGGTTAGAG	480
CTAGGTTGTG GTAGTCTOCC GCAGATACAG CAATAAACTT CTGGCCTTGT TCCAAATTCA	540
TCTTCATGAA TGAGTCTCTG ACGATATCAC CATTATTCAC CTTCAGGGTG TATGTGCTAT	600
TCTCGGTACA TAAAACCACT GTCATGCAAG ATGCCTCAAT CTTGGTTAAC CGTCCATCAA	660
ATGGCAAAAT CAA	673

(2) INFORMATION FOR SEQ ID NO:1142:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1694UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1142:

10

GATCAGCCCC CGACCGAAGA ACACTGGCTT CCTCTGGCG AGCGCGAAA TTCTTGGACC 60

GAGTATCAAC AAATOCAGTT AGATAACGAT CACATGATTG CAACACTGCG GGAATTCATT 120

15

AGTTACCAGA CTGTTTCCCA ACTCCAGAG CCCCAAATA TCATCGATTC GGGTAGGTGT 180

GCGAACTTCC TCAAAATCT CTTCACTAAG CTGGTGCTA ACCATTGTGG GCTTATACTT 240

20

GTCAGTACAG GCAGCAACCC GGTGGTTCTC GGCAGTTCA AGGCAATGC AGCGCGGCC 300

AAACGCATAC TATGGTATGG CCACTACGAT GTGATATCCG CGGACCAACC GTGCGAGTGG 360

25

GACAACGACC CCTTCACGCT CACTTGGGAA AATGGGTATC TTAAGGGAAG AGGGTGTCT 420

GATAACAAAG GCGCGCTGCT TGCGGCCATC TTCAGTGTAG CCGAGCTTTT CCAGAAAGGA 480

30

TACCTGAACA ACGACATCAT CTTTCTAGTC GAGGCGGAGG AAGAAAATGG CTCTCGGGC 540

TTCAGGGAAA TTTTGCTTGC CTCGAAGGG CTCTCAATC AGCGGTGGGA CTGGATCTG 600

35

TTCAGCAATT CCTACTGGCT GGATCAGAAG GTGCCCTGCC TCACTATGG CCTCCGAGGC 660

GTCATAAAG CGGAAA 676

40

(2) INFORMATION FOR SEQ ID NO:1143:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1695RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1143:

5 GATCTGCCCC CAAAAGATTT CGGTGCCGCG TACCCCAAAA GATTTTGGGT GCGGGCTACC 60
 CCATCAGGAG ATGGCACTGG CTCATTGGCG AGCTCTGGG CATTTGCTA TGACAGAGGA 120
 10 ATGAGTCAGC TTTACTCCGC CACACCATAC TCCCGGGCCT TCAACAAGCT TCTGTTTGCC 180
 ATCGGCATCG TGGCCAGTTC TTACACTGGG GCCCCACCTG CATGGGCGT CATGGCAGCC 240
 15 GTTTTGTAC AGTTCTCCCT CGCAGGTAT CGTCTCCGA CCGGTAAAGG ACGGACTAC 300
 GCAGGGCTG CGCACTCAC GTGGGGGGG GTCTTCTCT CCACCGTGAT AGTCACTTTT 360
 20 CAGTAGTGTG TGCTGCTTG AATTGGCAGG GCAATGTTT AAGCTGCTCT GGCGCGAAG 420
 ACGACCCAT CTCGCAAGG GGTGTGGGG AGAAAGGGT TTTGGGACA GACATGGGC 480
 25 ATCTGCCGA GTCAGCAGT GCGTTGGTAC GGAGCTAAGT GTCTATATTA TCCCTTAAT 540
 AAACATTGGA TATGCTGTT ATTGTATGCC AACGGTCTC CCGGTACAAC GGGGTAGTCC 600
 30 CGCCCCCTCC TGAGCTATCC TGGGCGATGT GAAGTGCTT TGGTTAAGTG GTCTGCTTTC 660
 CCGGGCCACT TGTAAACACT ATGGGGATC ATACAGCCAG GACTCAAATA C 711

(2) INFORMATION FOR SEQ ID NO:1144:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1695UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1144:

5 GATCTGAAAA GCAGGAAGTC GCAGTGGGAG GCGCCTGGGG GCACGTGGTG GCCAGCGAAG 60

GGTGCGCGCG ACGCGCCACC GCGCTACGAC ACGGCGGTGG CACGCGCGGC CGCGCACGGC 120

10 GCGCAGGCGG TTGCGCCCCA GCGCGACTAC GGCACACAGG CCGGATACGC GCGCCAGGGG 180

TACGCGCGGC GGGCGGGGTA CACGCCCCAG CCGGCTAAG GCGCACAGCC CGGCTACGGC 240

15 ACACAGCGCG GCTACGGTGC ACAGCCCGGC TACGGCGCAC AGCCCGGCTA CGGCGCACAG 300

CCCGCTATG CCGCGCAACC CGGTTACGGA TACGCGCGGC AGCCCGGCTA TGGTGCGCGG 360

20 CCGGCGCGGT ACGCGCAGCA GCGCGGCAC GGTACCGCG CCGCGCGAGC CGCGCGCGCG 420

CAGAACGCGG GCGCAACAA CATGATGATG GCGGCGCTGA TGGGTGCGCG CGTGCGGTTG 480

25 ATGGCGCGGT CACTAATGAC CACAGCCATG TATAACCAG ACAAGGAGT GCGCGATGCT 540

GCCTACGACC GGGCTATGA AGACGCTTCA TCGACGGCGA CTTCTAGGCC GCACCCGTC 600

30 ACGTGCCAGA CCGTAGAGA GCTAGGACAA CTTACGTAC GCGTCGACGT ACGC 654

(2) INFORMATION FOR SEQ ID NO:1145:

35 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1696RP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1145:

55 GATCTGTGTC TCATTGACA TCGAGCGGTT TGAGAGCAAC ACATCTGTGC TCACAGAGGT 60

GGGAATCTCG GTCTACGATC CCCGCGAGAA CGAGGACACG CTGCTGCCCC ACTTCGCGAC 120

GTACCACCTC TGCTCTGAGG AGTCTCTCGG GTTGATAAAC AAGCGGTTTG TTCCGAATCA 180

CAAATCGGAG TTTCTCCATG GTGAAACCAT GGTAAATGCG CTCTCCGAGT GGGTTGAGTT 240

CATTACGGG CTATCGAGT ACTACCTGTA CCCACCCACG GCGGTGGAAG ACAAGTACTC 300

GCGGGCAATT GTGGTCAATG GTGTCTCTGG TGATCTGCAA TGCTTAGGA GTCTGCTCAT 360

CGACCTGCCC ACGATCGCTG GCGCAGGCAA CTCCCATCG CGCGACCATG TTTCTGTCTT 420

AGATACCGCG CATTATACC AGTACTTCTA TGGTCAGAAG GGTTTCATCC TAGGTAAGAG 480

CTTAAGATTG CACGGTGTCC CACATAGCTA TCTGCACAAT GCAGGCAACG ATGCATATTA 540

CACATTACAA CTGCTCATGA AGATGGGGGA TGTGCAGCAA CGCATCCGGC ACCAATGGGA 600

CGATCTATAT GCTGTCTTCC ACACGTTGAA GCAATGGGAA GAGTATGAGA ACTCCAGGCC 660

CTOACTCAG CACGAGAAT CCGTCCATAA CAGCACCCGC GCTACCGGGA A 711

(2) INFORMATION FOR SEQ ID NO:1146:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 681 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1696UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1146:

GATCGGTCAG AAACCCATCG CCTCGCTCGC TCGTCTGCTA ACGCCAGAA CCGCACCTGT 60

GGTCTTTTCA CTGCCGCTGG TTCTTTATTC CGCCAGGGGG CCTCGTGGGC CCGCCAGGCG 120

TGCGCAGGCG	GGTGTGTGTC	ACCGGCAGCA	ACAGGAGGAG	AATCTCTGGC	TTTGGGCTTC	180
GTGAGATTTT	GGATTCACTC	ACGTGATTCA	CGTAGAGGTT	ACCGGGAAG	AGCGGCTTGG	240
ATGCGAGTAA	TCACGGGGGT	TATCGGGGCG	CTTCTTAGC	ATTCACTCTG	AGCGGCTTCT	300
CGCGGCTTCC	TTGTCTCTCT	CGAATTTCAA	AGGGGGGGCG	GTATATAGCG	GGCGAGAAA	360
ACACGGTGCG	GAACTGTGTT	GGGGCGAGC	GTTATGCTGA	AGAACAACA	TATGTGTTTC	420
CGCTTGGGTT	ATTAAACAGG	TGCAGGGGCT	AATCGAGGAG	AACGGGGTGT	TATTTGCATC	480
CAAGAGGTAC	TGTGGGTATT	GCGAGGGGCG	AAAGGCTAGG	TTGCTGAGG	AGAAGGGGTT	540
CGGGGCAAGC	GCAGTAAAC	TGTTGGAGCT	TGACACCATG	GGCGAGGAGG	GGGGGGTAT	600
CGAGGGGGG	TTGCAGGAGC	TGAGGGGGCA	GGGCACGGTG	CGACACATCT	ACATCAAGG	660
GGGCATGTC	GGTGGCAACA	A				681

(2) INFORMATION FOR SEQ ID NO:1147:

(1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 667 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(11) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1698RP

(x4) SEQUENCE DESCRIPTION: SEQ ID NO:1147:

GATCTGGTGC	TTTTCAAGGC	GOOGOOOOCAG	ACAAATTTCOC	GNAGCHDACA	TATGOCOCATT	60
ACATAAACAG	ATTTATGAC	TAGTACAGTT	AGGATATGTG	GAGATONOG	GNATACTOC	120
TATATCTEAT	TTCTGATTC	TCAGGTACTG	ATGCGCTGTT	ATGAACGGGC	AAOCCGTGGA	180

CTTGGGGATT AACACTGAT GAAGGCGAC GGGGGGTAG CACATTGGTA CTAGGCTGGC 240
 5 TGAATTCATA ATTGGAATAA GGTGCTGCTT GGGGCGATG CTGGTATGTC CGGTGCTGGG 300
 TTGAAGGCAT AAAATTGCTC GAGCTGAGC ATGTTGCTT CTCTAGCATC ATGTTGATG 360
 10 TAACTGCGC ATTGGGCGA AACTGGGCA ATGATGCAAG ATCTTCTTC TTCTGGGCAT 420
 ATTACCGAT GAGTTTGTG ACATGTGTC TAAGGGTGT GAGGTAGG TAAGTTCTG 480
 15 ATATCTGTC TTGTGTGTC ACATCCAT TCTGGGAC CTTAGTTTC TGGACCAAT 540
 TCTGACATT GGGGCTTC GCAAGNAG CATGCTCTG AGCAGCTTC TTAGCTACT 600
 20 CTTCTGAGT TGGCTAGGG CATAGGGA CATATTAC TGGGAAAT ACCAAGCTG 660
 CCGGCA 667

(2) INFORMATION FOR SEQ ID NO:1148:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 572 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1698UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1148:

GATCAGCAAG CTGGGCGG CAGGTGTGA TCTGGGCG TCTAGTGT TTGGGCTC 60
 CTGACTCA CCATACAT AGGCTCTTA CAGGCGAT CACATATT ATCAAA 120
 50 GAGCTGTTT CACTCAAG GAGCTGGA GTGTGTAG GTGTTGGG AGAATGGG 180
 OCTGATCTG TTTTGGTA CCAGAGAG CCAGAAAC CTTTAGGC GGGCTGCA 240

GAGGGTGGCT GGCTGTATG TGGCTGGAA ATGCATAGG GGGAGCTTGA CAACCCANT 300
 5 TGAATATTC ACTGTCTGGG GGAGGCATCA AGTTGACTTC GAGGCAATC CACTGGCAG 360
 GGATTGACA GAAGAAGAGA ACATGGCAT CATAGGCG GACTTAATTA TTGTTTGA 420
 10 CCCACAGAA AACATGAAG CGTTGAGAGA GGCTATGCG GCTAGAGTGC CACCTATGG 480
 GATCATTCAC ACGACTCAG AGCCTTCAT GGTACATAC CCGGTGCTG GTACCSAACG 540
 15 ATTOGCTAG TTCTGTAAAT TCACTGTAA AC 572

(2) INFORMATION FOR SEQ ID NO:1149:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: Linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1699RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1149:

GATCTGGTG TATATTGGA TGTATGGA CTTCACATT TGGAGGCA TGGAACTGA 60
 40 AAGCTGGTG AACACTGTC TGTATCTCG TAGTCTTCT GAAAGAGCG TAGTAAATT 120
 AACCTGAGC GCGATAGGG AAGATGCAC TTAAATTTC TCTACTTGT TACTCAATA 180
 45 CTGATATAT AATGCAGCT CAATATGCT GTGAAACA CCACTTGGC CGTTGGGAC 240
 ATGGGTGGG ATTGCGATA CCGATTGGA GATGGGAC AACTGGAG TAGTAGGCG 300
 50 TAACTGTAG GAAATTAAT TTAAACTTC GCGCTGGGC ACGATGTC TGTAGTGTG 360
 GTTAGCAGA TATCCCAAT GAGTATGTC CTCTGGGC CGCTTGGGA CCGGCGGCG 420
 55

GTAGGCAGAG GTTACCGGCG ACCGCGCGCTC TGAAAGCGCG TCACATTCT CGAAGGACTC 480
 5 TCATAGACA CTAACCGGCG TCAGCGCGGT CATCAGCGAG TTGTGCGGTT GCAGCGTGGC 540
 GTTCGTAAAG TATCCAGACG CGGTGCGGCT GTGTGCGAAG GCGTGCTCT CCTGCGGCAC 600
 10 GCTGTTACG ACCGTCAGGT ACTTCAGCAC CTGCTCTTG CTACCGAAAC TCTCCAGCAC 660
 TTTC 664

(2) INFORMATION FOR SEQ ID NO:1150:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 642 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1699UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1150:

GATCTCCACC GCGTCCAGCA CCAAGATCGG GTCACCGTCC CACCGGTCA TGGCACTGT 60
 40 CCGCGCGACG CTTTCGAAAA CCGCCCGTCC CTCGCGCGTC GCAGCCCTC CCGCGCTGTC 120
 GTGCGTCCGG TGCTCGGCT CCGCGACCG CAGCGTGGC ACCACCGCT CTATATTAC 180
 45 GCGCGCGGC TTCAGCGTGT CCGCTTGAT GCGAGGCTG GTGGGTTCT CTCCACCAC 240
 CTCAGGCTC TTGATAAAG TGTCTTAAT CACCTTAAAG CTGCGATAT GCGCTTGCG 300
 50 CCCACATAGT AGGTCAGCG TATGGTTTC CGAATGTAC GCGTATATCT TGCCCTGTGT 360
 TACACGTCG AGGACGTGG TCACCGCAC CTTGAATCCA AGGATATGTT CCAAGTTGAT 420
 55 GCTCAITCTG CTCACTTCA AGCCACACA GCTATCTGG CCACCTAGA ATGCCAGCC 480

TGCTCCCGGT CCACTGGCTG ACTCCCAATC GTTCAGTTTG CGGTGTGGGT ATTTTTTTGA 540

5 AGTGGCGCTC TAACGATGAA GTAGGATTTT CTATGTATTA CTATGTGGCA CAAAGGTTAG 600

TTCCAATAGT GCTTGCAACT ATCAGGTGCT GTGGAATTCC AA 642

10 (2) INFORMATION FOR SEQ ID NO:1151:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 624 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1700RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1151:

30 GATCAGCAAC CGCAGCGGAT GAGGGAGTCC GCTCAAGCAC GGCTTTGTTT TCAGCGCTTG 60

35 GCTTGCTTTT CTCCTTTATG CGTTGTACTA CTTCTGTGAT GTGCTGGCA TCCAGGCCCC 120

TTTTCTTAG CCTGCTTGT AAACCTGGCA GGCGCGGTT GCTACGAACA CGCAACTTGG 180

40 CTTCTGGATC AGCAAGCTGC GCTGGGTGTT TGCGAGCCG TTGGCATGCT CGCGGATCCT 240

CGCGTTCAAT ATACCAGAAT GCATCATGCT TGGCTGGCTC TATATGACC TGGTGGCCAT 300

45 ATATGAAAAG GCGTCTTTG AAGTTTGTG AAAACTGTC TGCTGAGAT GCGGTAGCGA 360

AACCAAGGAA GCATTTATTG CGGCATTTAC GAGGCCTGGA AACACTAACT ACCCGTACT 420

50 TCTCATCTAC CAGTGAAGG GGCAGTCTG CGAAGGAAG CGGCTCTGGC AACGTTTCT 480

CGCGGATAG AGCATATGG TTATCCTTGT TGATGGACTT CAACAGTTGT CGAGCATATT 540

55 CTATCCTGGA GGCATTTGAC GCTGGCAAT TTGACAGGTA GAACTGGAT GCGGGGGTTA 600

GTATCGAATC GACAGCAGTA TAGC

624

(2) INFORMATION FOR SEQ ID NO:1152:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 603 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1700UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1152:

GATCACTGGG CCTGGAGGGG CGCGCCTTTT TGCGGCTGTT GTAGAACAGC ATGCCCGGGC 60
 GGACCTTGTG ATAGAAGTGT TTAGACTGTA GGGTTCOCAT CGAATGGGAG CGCGGTTAGC 120
 TGTGACTTTT CATGATAATG GGGTGCAANA GCTTGAGGTG GTGTGTGTAC GGGGAGGAAA 180
 TGAGGTTCGG GCGGAGACGG AGGTGTGTGG CGCGCGGAG CGACGAGCGG CCGGATGGCC 240
 ACTTCCAGGA CTTGCGGAC GACGGCGGCT GGCGCGAGGA GTAGGAGCGG ATGGGGAAAT 300
 CGCGGCAAG CTGCGAGCGG CGGAGCCAG AGGTGAGCGG CTTCAANAAA CGCGAGCGGC 360
 GGTTCGGGGG CTGGAGCTGG CGCGGACAA ACGCAGAGCC GCTGTGGCG AGACCGGTGG 420
 GCGCGCTGC GCTGCTGTA AGCCAGTGG CGGACTCAGG CAAGCCGGAC ATGCCCGGGA 480
 AGTAGCGGC GCTGTTGGG CTGAGCTTG GAAACATCTT GGAGAGAAG CCGGCTCG 540
 TGGAGCGCA CAAGCGGTCC GCTTGGAGA TGTGCTCTG CGTGGAGTGC GCCAACTGCT 600
 CCA 603